Volume 4

DICOTYLEDONS
(OROBANCHACEAE
THROUGH RUBIACEAE)

ILLUSTRATED FLORA OF BRITISH COLUMBIA

edited by George W. Douglas, Del Meidinger and Jim Pojar

BRITISH COLUMBIA

Ministry of Environment, Lands and Parks
Ministry of Forests

NOVEMBER 1999

FOREWORD

British Columbia, Canada's most westerly province, has a bounty of biological diversity. British Columbia's snowclad peaks, rain-drenched forests, arid grasslands, all sizes of rivers, lakes, and wetlands, and a long and rugged coast provide habitats for more species of living organisms than are found anywhere else in Canada. However, this very diversity means that there is much to be discovered about these organisms – their distribution, abundance, habitat requirements, and interrelationships with their environment. Increasing our knowledge of this biodiversity will help us with the complex task of sustainably managing our land and waters.

In 1992, the provincial government initiated a co-operative biodiversity research program with funding from the Corporate Resource Inventory Initiative, the British Columbia Ministries of Forests (Research Branch), Environment, Lands, and Parks (Wildlife and Habitat Protection Branches), and Tourism and Culture (Royal B.C. Museum); and the Forest Resource Development Agreement (FRDA II).

In 1995, the Ministry of Forests Research Branch and the Ministry of Environment, Lands and Parks developed a biodiversity research and extension strategy, with the assistance of the provincial research community. This strategy was presented to Forest Renewal BC (FRBC), who provided funding for a program beginning in 1995. The goal of the extension component of this program is to extend information to scientists, resource managers, and the public through biodiversity publications. These publications are intended to increase awareness and understanding of biodiversity, promote the concepts and importance of conserving biodiversity, and communicate provincial government initiatives related to biodiversity. We hope that they will be used as tools for the conservation of British Columbia's rich, living legacy.

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ILLUSTRATED FLORA
of BRITISH COLUMBIA

Volume 4

Dicotyledons
(Orobanchaceae through Rubiaceae)

edited by
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Elizabeth Campbell prepared the glossary and Marie Fontaine revised it with respect to terms used in the present text. Louise Gronmyr assisted with compiling the textual submission and doing edit corrections. Art press and final typesetting were done by Frances Hunter and Gail F. Harcombe coordinated the prepress and print production of the flora. Cover design was created by Annie Weeks.

The curators of all of the herbaria visited during this study deserve special thanks for providing help whenever needed. The herbaria curators and staff include: George Argus and Michael Shchepanek (The National Herbarium, National Museums, Ottawa); T. Christopher Brayshaw, John Pinder-Moss, Jim Cosgrove, Joan Kerik, Lesley Kennes and Leon Pavlick (Herbarium, Royal British Columbia Museum, Victoria); William Cody, Gisele Mitrow and Paul Catling (Vascular Plant Herbarium, Department of Agriculture, Ottawa); Olivia Lee and Jack Maze (Herbarium, Department of Botany, University of British Columbia, Vancouver); Brenda Constanzo and Gerry Allen (Herbarium, Department of Biology, University of Victoria); Ray Coupé and Anna Roberts (Herbarium, BC Ministry of Forests, Williams Lake) and Jim Pojar and Karen McKeown (Herbarium, BC Ministry of Forests, Smithers).

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INTRODUCTION

This flora, projected to be in eight volumes, keys, describes and illustrates all of the flowering plants and vascular non-flowering plants, both native and naturalized, known to occur at the time of writing, within the borders of British Columbia. In part, it is a revision of *The Vascular Plants of British Columbia* (Douglas *et al.* 1989, 1990, 1991, 1994). Keys are included for all genera, species, subspecies and varieties. Family keys and maps for all taxa will appear in Volume 8. Species previously recorded for the province but excluded from this treatment appear in an annotated list in Appendix I.

Twenty-two new species, discovered in the province in recent years, have been added to families in Volume 4. Recent taxonomical or nomenclatural research has also resulted in new name changes for 30 taxa since Douglas *et al.* (1990, 1991). Appendix II lists these new name changes.

FORMAT

The floristic treatment is in alphabetical order by families, genera and species because most users may not be familiar with the more traditional "Englerian system". These users (e.g., foresters, wildlife biologists, park managers, naturalists, students, etc.) often require specific information about a species. Thus we have attempted to include the most frequently required information. Each entry includes the following:

Synonyms

Synonyms are given only when there are references in major or pertinent floristic treatments to a given species by another name or names. These names, for the most part, follow Kartesz and Meacham (1999), who have done an extremely thorough job of researching specific names and their authorities.

English Names

We provide an English name for each species, based mainly on names appearing most frequently in the western North American literature.

Habitat and Moisture Regime

A brief description of the habitat preference of a species is given. Moisture regime is denoted by a simple (wet – moist – mesic – dry) scale.

Vegetation Zones

The elevational limits of a species are presented using vegetation zones. The zonal system used here, unlike some of the regional zonation systems (Krajina 1965; Rowe 1959, 1972; Franklin and Dyrness 1973), has wide application in the northern hemisphere and differs only slightly from that proposed by Dansereau (1957) and Meusel *et al.* (1965) and recommended by Löve (1970) in a review of the subject. The *montane zone* includes all continuous forests in British Columbia except for the coastal lowlands and some islands, which comprise the *lowland zone*. The upper forests in southern British Columbia, included by some ecologists (e.g., Krajina 1965) in the subalpine zone, constitute the *upper montane zone* in this work. The *subalpine zone* is defined as that area above the montane zone and below the upper limit of conifers as an upright tree form (Douglas 1972). In the southern part of the province, subalpine vegetation consists of a meadow/tree-clump complex (Douglas 1971, 1972), while in the northern part of the province the subalpine zone is dominated by tall shrubs (mainly three- to four-metre *Salix)* and scattered trees (Douglas 1974, Krajina 1975). Above the subalpine zone is the *alpine zone*, where trees occur only in krummholz (dwarfed) form and the vegetation is extremely short (less than one metre) and commonly referred to as alpine tundra (Krajina 1969, Douglas 1972, Douglas and Bliss 1977). The *steppe zone* (Daubenmire 1970) occurs in the interior of the province and includes what is often referred to as sagebrush or grassland vegetation. This zone occurs at lower elevations in the Thompson, Okanagan, Kootenay and Columbia River valleys in southern British Columbia. Parts of the Fraser and Thompson plateaus also have grassland or steppe.

Abundance

The abundance of a species is given by a general scale: rare – infrequent – frequent – common. The rare plants are well documented in Douglas *et al.* (1998). Most of the common plants are also well known from numerous other sources. However, limited collecting or research enabled us to make only general statements about the abundance of some of the infrequent or frequent species.

Range

The general distribution of a species, both within and outside the province, is presented. Figure 1 illustrates the general areas of the province referred to in the text. Maps compiled at the Royal British Columbia Museum were extremely helpful for the more common species. Douglas *et al.* (1998) provide maps of the distributions of rare plants. Abbreviations used within the province are as follows:

E - Eastern
EC - Eastcentral
N - Northern
NE - Northeastern
NW - Northwestern
S - Southern
SC - Southcentral
SE - Southeastern
SW - Southwestern
WC - Westcentral

For ranges outside of B.C. the outer peripheries (i.e., provinces/states) of the ranges are given using the following abbreviations:

Alberta	AB
British Columbia	BC
Manitoba	MB
New Brunswick	NB
Newfoundland	NF
Northwest Territories	NT
Nova Scotia	NS
Ontario	ON
Prince Edward Island	PE
Quebec	PQ
Saskatchewan	SK
Yukon	YT

Alabama	AL
Alaska	AK
Arizona	AZ
Arkansas	AR
California	CA
Colorado	CO
Connecticut	CT
Delaware	DE
District of Columbia	DC
Florida	FL
Georgia	GA
Hawaii	HI
Idaho	ID
Illinois	IL
Indiana	IN
Iowa	IA
Kansas	KS
Kentucky	KY
Louisiana	LA
Maine	ME
Maryland	MD
Massachusetts	MA
Michigan	MI
Minnesota	MN
Mississippi	MS
Missouri	MO
Montana	MT
Nebraska	NE
Nevada	NV
New Hampshire	NH
New Jersey	NJ
New Mexico	NM
New York	NY
North Carolina	NC
North Dakota	ND
Ohio	OH
Oklahoma	OK
Oregon	OR
Pennsylvania	PA
Rhode Island	RI
South Carolina	SC
South Dakota	SD
Tennessee	TN
Texas	TX
Utah	UT
Vermont	VT
Virginia	VA
Washington	WA
West Virginia	WV
Wisconsin	WI
Wyoming	WY

Mexico	MX

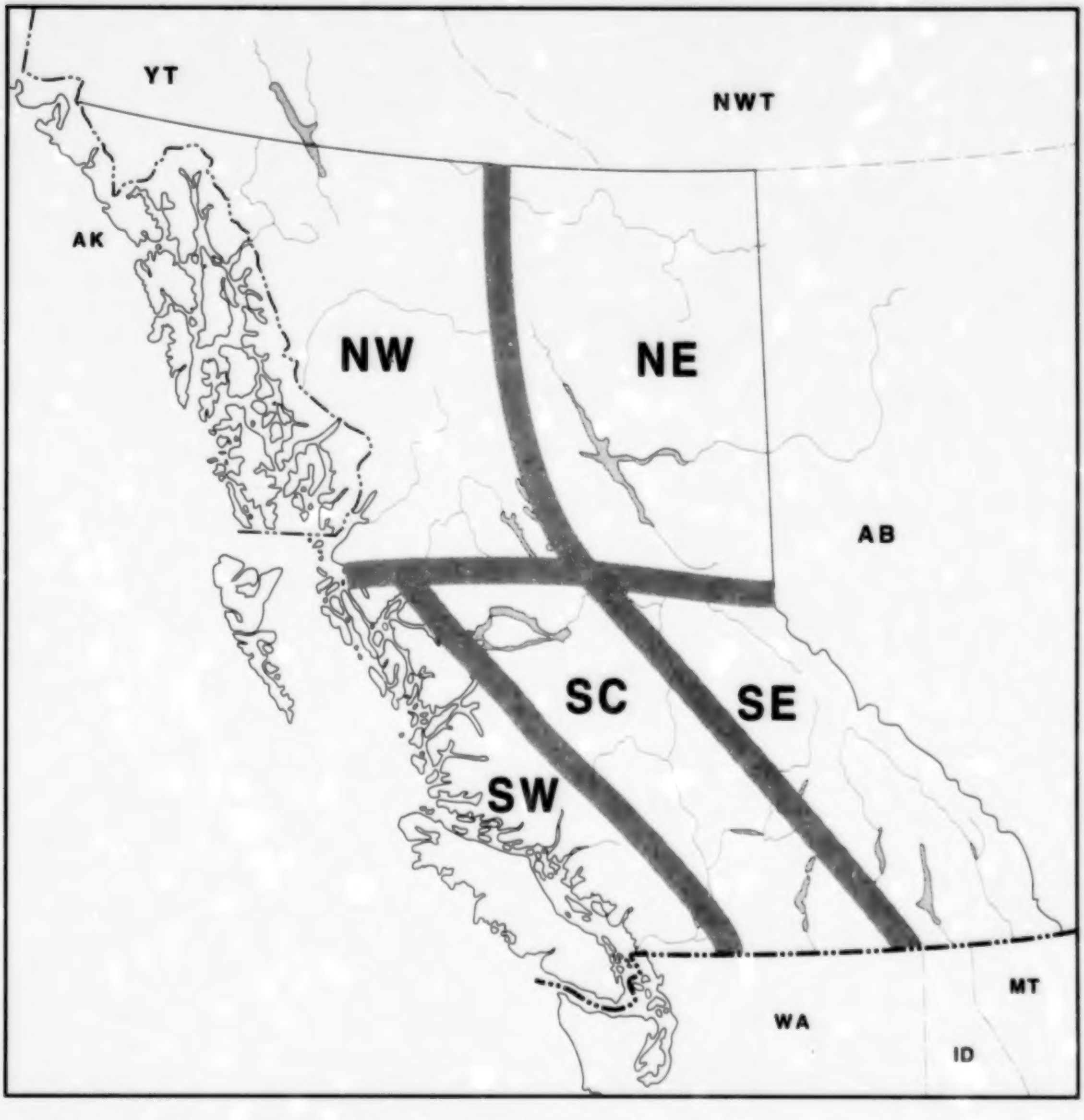
YT
NWT
AK
NW
NE
AB
SC
SE
SW
MT
WA
ID

Figure 1. Geographical Regions of British Columbia.

Descriptions

Major morphological characters are given for each taxon. In most cases, technical terminology has been kept to a minimum since most of our users have a limited botanical background. All terms, both technical and simplified, appear in the glossary.

Notes

Specific items of importance or problems, especially those related to taxonomy and nomenclature, are noted. Infraspecific taxa worthy of recognition are keyed here.

We have also appended a floristic bibliography, arranged by families, for users wishing to explore the taxonomy further.

DATABASE

The present manual is based on a wealth of regional publications dating back over a hundred years. In addition, most of the species (especially the rare and infrequent ones) have been examined in various Canadian herbaria. Historically, the floristic documentation of British Columbia's flowering plants and vascular non-flowering plants began with the enumeration of the extensive collections of J. Macoun (1883-1890). This was soon followed by the botanical contributions of his son, J.M. Macoun (1889, 1894-1906). In 1915, the first provincial flora appeared (Henry 1915), treating the southern part of the province. A supplement to this work was later provided by Eastham (1947). The southern part of the province was also included in a treatment of Pacific Northwest vascular plants by Hitchcock *et al.* (1955-1969) - later edited and revised by Hitchcock and Cronquist (1973). During this same period several other major works also appeared. Boivin (1966-1967), after numerous visits to Canadian and American herbaria, produced a checklist of Canadian vascular plants. In his *Flora of Alaska and Neighboring Territories,* Hultén (1968) provided brief descriptions with range maps that, in many cases, included British Columbian species. Meanwhile, in a treatment of the Queen Charlotte Islands' vascular plants, Calder and Taylor (1968) contributed one of the few floras dealing solely with a part of British Columbia. British Columbia was again included in a regional flora of northwestern North America when Welsh (1974) treated the plants of Alaska and adjacent parts of Canada, including northern British Columbia. A literature review by Taylor and MacBryde (1977), mainly of North American works, resulted in a resource inventory of vascular plants for British Columbia. (Unfortunately, this extensive review treated several hundred erroneous citations as valid records for the province. It also ignored many herbaria records that had never been published.) Recently, a modern Canadian flora was produced by Scoggan (1978-1979). All of the province's rare or infrequent plants were examined and verified in various Canadian herbaria by Straley *et al.* (1985) and, more recently, by Douglas *et al.* (1998). Finally, the BC flora was documented, annotated and all species keyed in *The Vascular Plants of BC* (Douglas *et al.* 1989, 1990, 1991, 1994).

In addition to the major works mentioned above, there have been numerous taxonomic, floristic and related research papers dealing with British Columbia's vascular plants. Many of these are cited in the floristic bibliography by Douglas *et al.* (1983) and many are specifically referenced in this manual.

This study was supplemented by the examination of specimens in all major Canadian herbaria and some US herbaria (e.g., UC, CAS, WTU), as well as a complete review of the pertinent literature.

Although descriptions and illustrations are provided for all of British Columbia's plant species in this manual, additional descriptions and/or illustrations may also be found in several floras (Abrams 1923-1951, Argus 1973, Cody 1996, Cronquist *et al.* 1977-1989, Fernald 1950, Ferris 1960, Hickman 1993, Hitchcock *et al.* 1955-1969, Packer 1983, Porsild and Cody 1980, Tutin *et al.* 1964-1980, Welsh 1974) or in treatments of some British Columbian plant families (Brayshaw 1976, 1985, 1996a, 1996b; Douglas 1982, 1995; Szczawinski 1959, 1962; Taylor 1963, 1966, 1970, 1973a, 1974a, 1974b, 1983).

TAXONOMIC CONCEPTS

We have a practical view of species limits. Therefore, species had to be readily characterized morphologically in order to produce user-friendly keys. Many of the keys were newly constructed while others were adapted for our British Columbia plants from well-tested manuals.

Wherever possible, geographically separate, or largely separate, infraspecific taxa are treated at the subspecies level, while those with sympatric ranges are treated at the varietal level. Because we have not published any nomenclatural changes associated with the production of the manual, this distinction between subspecies and variety was not always possible. In this work, we have not used more than one infraspecific rank for a single species. Taxa are not recognized at the *forma* level.

OROBANCHACEAE[1]

1. Corollas 1.5-3.5 cm long; stamens included; plants glandular-hairy .... *Orobanche*
1. Corollas 0.8-1.5 cm long; stamens more or less exserted; plants smooth or nearly so .... *Boschniakia*

BOSCHNIAKIA

1. Plants 8-12 cm tall; bracts entire; plants of SW BC .... *B. hookeri*
1. Plants 10-14 cm tall; bracts, or at least the upper ones, fringed; plants of extreme N BC .... *B. rossica*

***Boschniakia hookeri* Walp.** (*B. strobilacea auct. non* A. Gray)
Vancouver groundcone; poque
HABITAT/RANGE:
Parasitic on *Gaultheria shallon* in moist to mesic forests in the lowland zone; locally frequent on S Vancouver Island and the Gulf Islands, rare on the Queen Charlotte Islands and SW mainland; S to N CA.
DESCRIPTION:

General: Parasitic herb from a coarse fleshy root and thickened stem-base; stems single or clustered, stout, up to 3 cm thick above, yellow to red or purple, 8-12 cm tall.

Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, the bracts entire, overlapping like the bracts on a conifer cone.

Flowers: Inflorescence of numerous flowers in dense spikes, each flower subtended by a bract; corollas yellow to purple, 1-1.5 cm long with the lower lip shorter than the upper lip; calyces with 2-3 lobes; filaments with tufts of basal hairs.

Fruits: Capsules, 1-1.5 cm long; seeds numerous, minute, honeycombed.

***Boschniakia rossica* (Cham. & Schlecht.) Fedtsch.**
northern groundcone
HABITAT/RANGE:
Parasitic, mostly on *Alnus* (but also on *Betula, Salix, Vaccinium, Picea* and *Chamaedaphne*) in moist to mesic forests and thickets in the montane zone; locally common in extreme N BC; amphiberingian, N to AK, YT and NT; Asia.
DESCRIPTION:

General: Parasitic herb from a coarse fleshy root and thickened stem base; stems single or clustered, short glandular-hairy, stout, up to 1.5 cm thick above, brownish, 10-40 cm tall.

Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, the upper bracts fringed, overlapping like the bracts on a conifer cone.

Flowers: Inflorescence of numerous flowers in dense spikes, each flower subtended by a bract; corollas rusty-red, 0.8-1.3 cm long with the lower lip shorter than the upper lip, the lobes fringed with hairs; calyces with 2-3 lobes; filaments with tufts of basal hairs.

Fruits: Capsules, 1-1.5 cm long; seeds numerous, minute.

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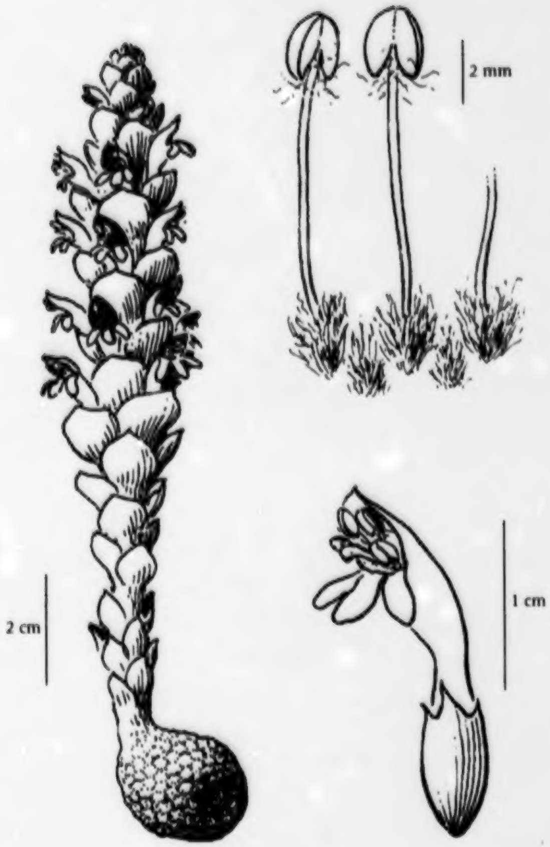
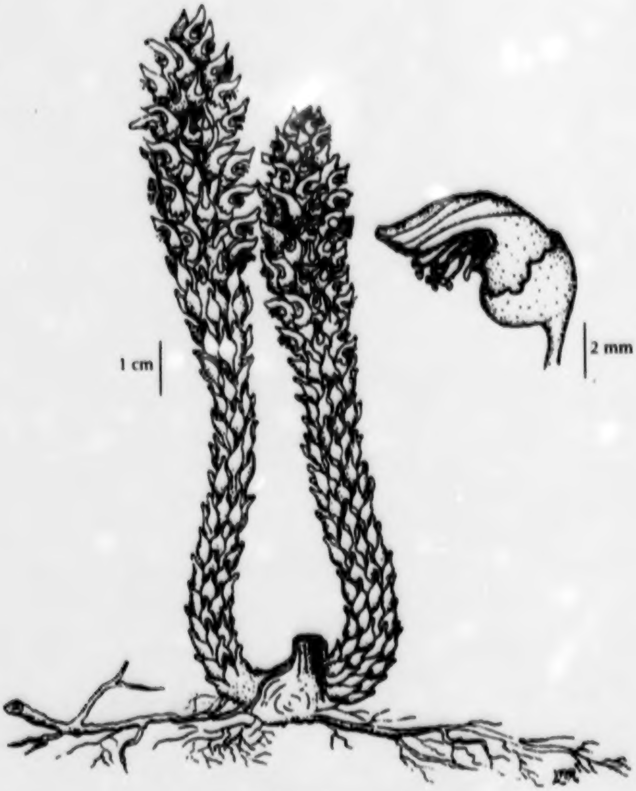
[1] Key adapted from Scoggan (1979).



Boschniakia hookeri



Boschniakia rossica

OROBANCHE[2]

1. Flowers 1-20, the stalks leafless.
    2. Flower stalks usually 5-20, about equal in length to the stems; calyx lobes shorter than or equal to the tubes .... *O. fasciculata*
    2. Flower stalks 1-3, much longer than the stems; calyx lobes longer than the tubes .... *O. uniflora*
1. Flowers usually more than 20, the stalks with scaly-bracteate leaves.
    3. Calyces usually 5-8 mm long, lobes about equal to the tubes; corollas yellowish .... *O. pinorum*[3]
    3. Calyces 10-20 mm long, lobes longer than the tubes; corollas purplish.
        4. Flowers unstalked in spikelike clusters; anthers smooth .... *O. ludoviciana*
        4. Flowers on stalks up to 4 cm long in round-topped clusters; anthers woolly.
            5. Corollas usually 2.2-4.5 cm long, lips 10-14 mm long, strongly spreading; plants of SW BC .... *O. californica*
            5. Corollas 2-3 cm long, lips 4-9 mm long, erect to slightly spreading; plants of SW and SC BC .... *O. corymbosa*

Orobanche californica **Cham. & Schlecht. ssp.** ***californica***
California broomrape

HABITAT/RANGE:

Parasitic on *Grindelia integrifolia* and *Ambrosia chamissonis* on sandy beaches in the lowland zone; locally frequent on S Vancouver Island and the Gulf Islands, rare on adjacent mainland; S to CO and CA.

DESCRIPTION:

General: Parasitic herb from a coarse, tuber-like, fleshy root; stems branched, short glandular-hairy, dark purple, 5-35 cm tall.

Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, short glandular-hairy.

Flowers: Inflorescence of 20 or more flowers in round-topped clusters; corollas purple, 2.2-4.5 cm long, the lips 10-14 mm long and spreading, stalked, the stalks 0-4 cm long, with leaves; calyces 10-20 mm long, lobes longer than the tubes; anthers woolly-hairy.

Fruits: Capsules; seeds numerous, angled, net-veined, less than 0.7 mm long.

Orobanche corymbosa **(Rydb.) Ferris ssp.** ***mutabilis*** **Heckard**
flat-topped broomrape

HABITAT/RANGE:

Parasitic, mainly on *Artemisia* in dry shrublands in the steppe zone; rare in SC BC; S to MT, WY, UT and NE CA.

DESCRIPTION:

General: Parasitic herb from a coarse, tuber-like, fleshy root; stems branched, clustered, thickened at the base, short glandular-hairy, pale purple, 3-16 cm tall.

Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, short glandular-hairy.

Flowers: Inflorescence of few flowers in round-topped clusters; corollas purple, 2-3 cm long, the lips 4-9 mm long, stalked, the stalks 0.5-3 cm long, with leaves; calyces 12-18 mm long, the lobes longer than the tubes, erect to spreading; anthers woolly-hairy.

Fruits: Capsules; seeds numerous, angled, net-veined, less than 0.7 mm long.

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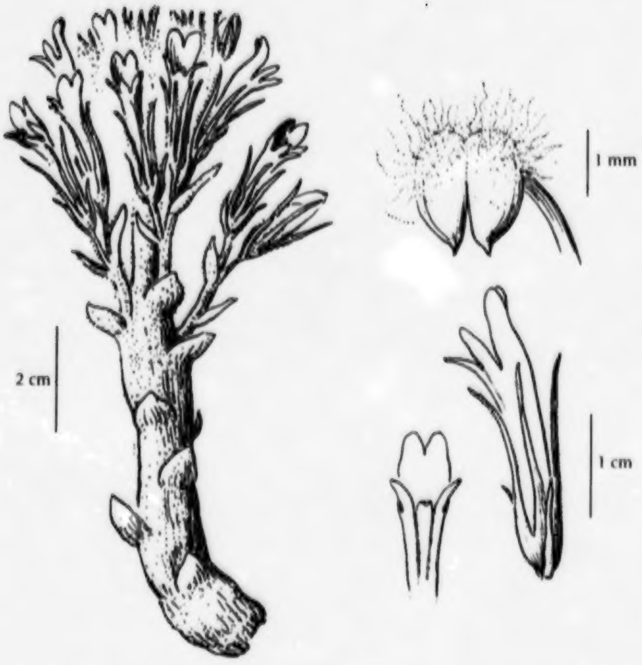
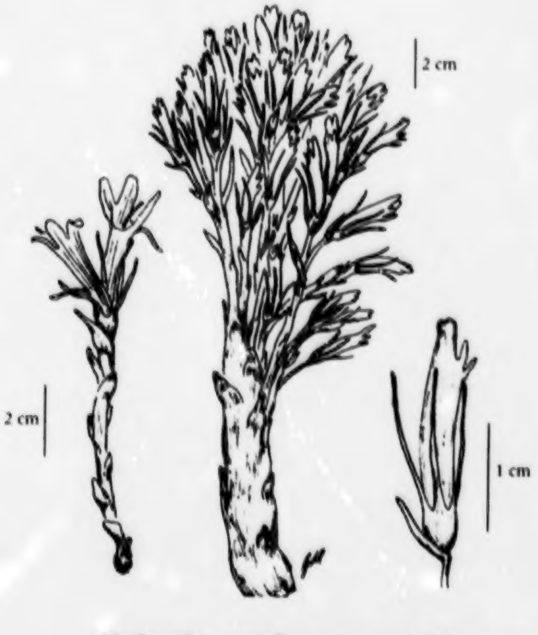
[2] Key adapted from Hitchcock and Cronquist (1973).

[3] This species, known only from a 1914 collection at Duncan, is probably extirpated and is therefore excluded from our flora.



Orobanche californica ssp. *californica*



Orobanche corymbosa ssp. *mutabilis*

Orobanche fasciculata **Nutt.**

clustered broomrape

HABITAT/RANGE:

Parasitic, mainly on *Artemisia* in dry shrublands in the steppe and lower montane zones; frequent in SC BC; rare northward and eastward; E to ON, S to IN, MI, CA and N MX.

DESCRIPTION:

General: Parasitic herb from a coarse, tuber-like, fleshy root; stems single or clustered, short glandular-hairy, yellowish to purplish, 3-20 cm tall.

Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, short glandular-hairy.

Flowers: Inflorescence of loose flat-topped, several to many-flowered clusters; corollas yellow to purple-tinged, 1.5-3 cm long, the lips 4-9 mm long, stalked, the leafless stalks 2-15 cm long; calyces 9-11 mm long, the lobes 3-7 mm long, narrow, acute, equaling or slightly shorter than the tubes; anthers smooth or hairy.

Fruits: Capsules; seeds numerous, angled, net-veined, less than 0.7 mm long.

Orobanche ludoviciana **Nutt. ssp.** ***ludoviciana***

Suksdorf's broomrape

HABITAT/RANGE:

Parasitic on Asteraceae (especially *Artemisia*) and others; grassland, shrublands and open forests in the steppe and montane zones; rare in SE BC, known only from Bull River; E to MB and S to IN, ND, NV and OR.boschniakia

DESCRIPTION:

General: Parasitic herb from a coarse, tuber-like, fleshy root; stems single, short glandular-hairy, 7-20 cm tall.

Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, short glandular-hairy.

Flowers: Inflorescence of many flowers in dense, spikelike clusters; corollas purplish or pink striped with white, 1.5-2.2 cm long, the lips short, unstalked; calyces 7-12 mm long, the lobes 3-7 mm long, narrow, acute, equaling or slightly shorter than the tubes; anthers smooth.

Fruits: Capsules; seeds numerous, angled, net-veined, less than 0.7 mm long.

Orobanche uniflora **L.** (*O. uniflora* var. *minuta* [Suksd.] Beck, *O. uniflora* var. *occidentalis* [Greene] Taylor & MacBryde, *O. uniflora* var. *purpurea* [Heller] Achey)

naked broomrape

HABITAT/RANGE:

Parasitic on *Sedum*, Saxifragaceae, Asteraceae and others; moist to dry meadows and forest openings in the lowland, steppe and montane zones; common on SE Vancouver Island and Gulf Islands, infrequent eastward in S BC; E to NF and S to FL, TX and CA.

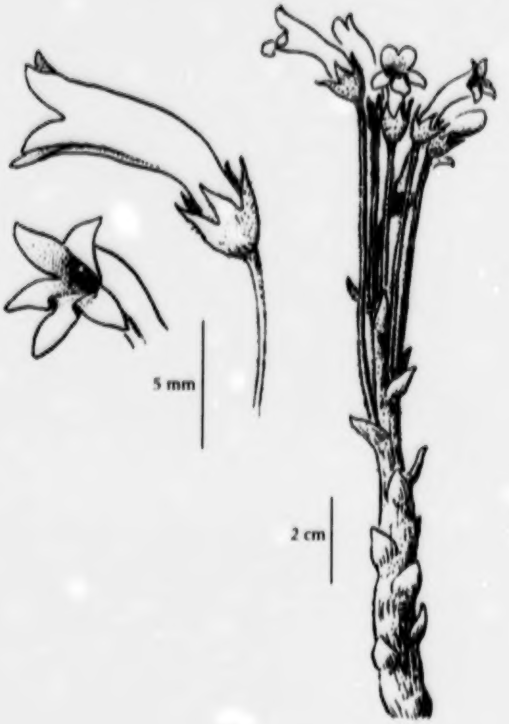
DESCRIPTION:

General: Parasitic herb from a coarse, tuber-like, fleshy root; stems single or clustered, usually smooth except finely glandular-hairy above, 5-15 cm tall.

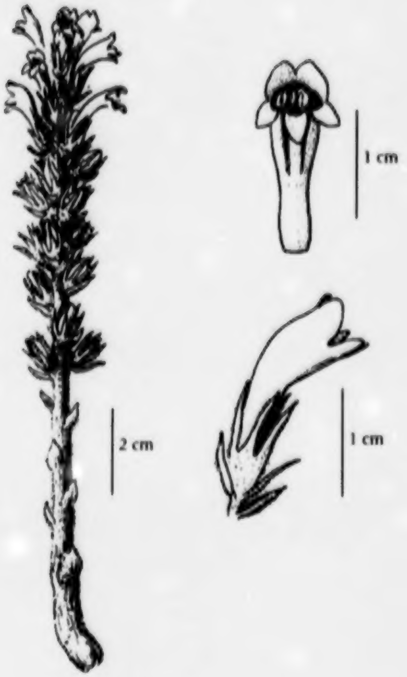
Leaves: Basal leaves lacking; stem leaves scaly-bracteate, alternate, lance shaped, smooth.

Flowers: Inflorescence of single flowers, 1-3 per plant; corollas purplish, sometimes yellowish, 1.5-3.5 mm long, the lips similar to the other lobes, finely fringed, stalked, the leafless stalks 3-12 cm long; calyces 4-12 mm long, the unequal, narrow lobes fringed; anthers smooth or hairy.

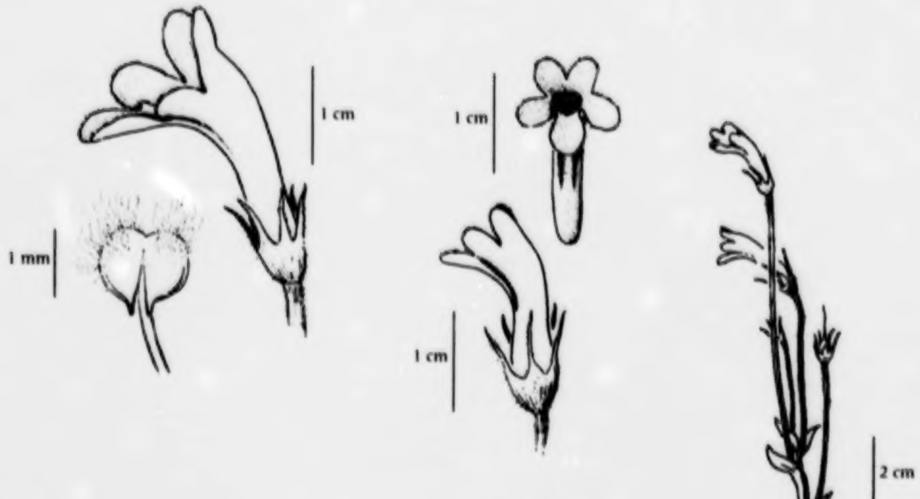
Fruits: Capsules; seeds numerous, angled, net-veined, less than 0.7 mm long.



Orobanche fasciculata



Orobanche ludoviciana ssp. *ludoviciana*


1 cm
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Orobanche uniflora

OXALIDACEAE

OXALIS

1. Flowers white or pinkish; leaves all basal; plants native .... *O. oregana*
1. Flowers yellow; leaves not all basal; plants introduced.
    2. Plants usually less than 10 cm tall; leaves often brownish, reddish or purplish; hairs of stems, stalks and capsules never cross-walled .... *O. corniculata*
    2. Plants usually more than 10 cm tall; leaves green; hairs of stems, stalks and capsules usually cross-walled .... *O. stricta*

Oxalis corniculata L. (*O. repens* Thunb.)

yellow oxalis

HABITAT/RANGE:

Mesic fields and waste places in the lowland zone; frequent on S Vancouver Island, the Gulf Islands and adjacent coast; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a slender taproot; stems decumbent to ascending, simple, many, rough hairy, trailing ones freely rooting, herbage brownish to reddish-purple, 5-10 cm tall/long.

Leaves: Basal leaves few, reduced; stem leaves alternate, long stalked, clover-like, the blades 1-4 cm long, the leaflets broadly heart-shaped, folded towards each other; stipules linear to oblanceolate, often brownish, 1.5-4 mm long.

Flowers: Inflorescence 2- to 5-flowered on stalks 2-10 cm long; petals yellow, 4-8 mm long, entire; sepals 2-4.5 mm long.

Fruits: Capsules, oblong, 1.5-2.5 cm long, greyish rough-hairy; seeds brown, cross-wrinkled.

Oxalis oregana **Nutt. *ex* T.& G.**

redwood sorrel

HABITAT/RANGE:

Moist forests in the lowland zone; rare on the Queen Charlotte Islands and W coast of Vancouver Island; S to CA.

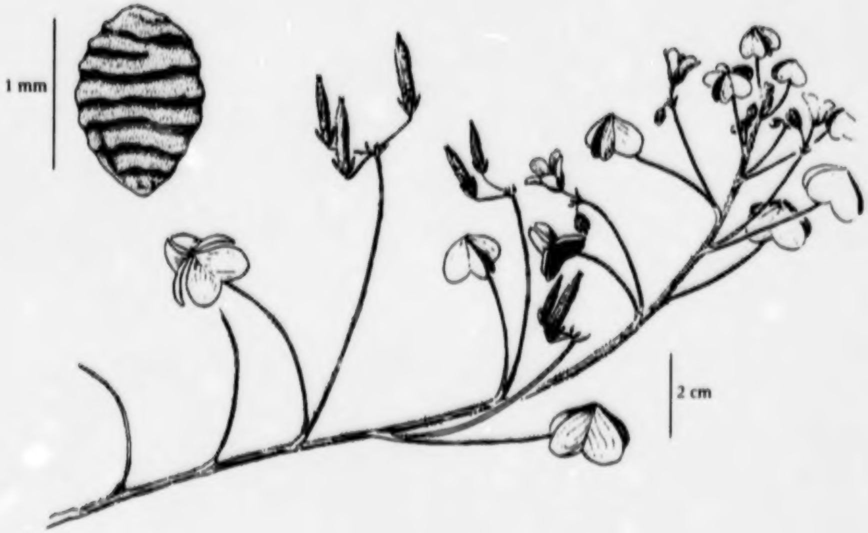
DESCRIPTION:

General: Perennial herb from a scaly rhizome, 5-20 cm tall; stems ascending to erect, several, simple, brown-hairy, 5-15 cm long.

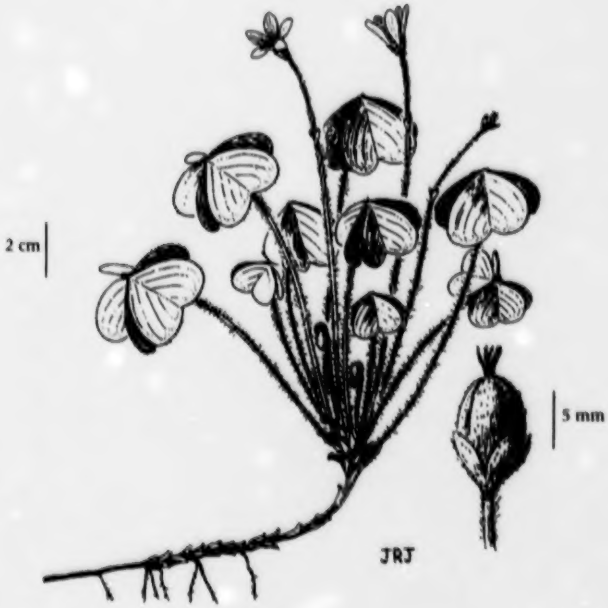
Leaves: All basal, numerous, clover-like, the blades 1-4.5 cm long, stalks brownish-hairy, 3-20 cm long, leaflets broadly heart-shaped, folded towards each other.

Flowers: Inflorescence of single terminal flowers; petals white to pinkish, 13-20 mm long, entire; sepals 5-10 mm long.

Fruits: Capsules, egg-shaped, 7-9 mm long, hairy; seeds almond-shaped, 3.5-4 mm long, longitudinally marked.



Oxalis corniculata



Oxalis oregana

***Oxalis stricta* L.**

upright yellow oxalis

HABITAT/RANGE:

Moist disturbed areas and ditches in the lowland zone; rare in the lower Fraser Valley; introduced from the U.S.

DESCRIPTION:

General: Perennial herb from a slender rhizome; stems erect, sometimes prostrate and matted, simple, few to several, smooth or hairy, 10-50 cm tall/long.

Leaves: Basal leaves lacking; stem leaves alternate, long-stalked, clover-like, the blades 1-5 cm long, the leaflets broadly heart-shaped, folded towards each other, smooth or the margins hairy.

Flowers: Inflorescence of 2-7 flowers on smooth or hairy stalks 5-15 cm long; petals yellow, 4-9 mm long, entire; sepals 2-5 mm long.

Fruits: Capsules, oblong, 8-15 mm long, sparsely long-hairy, the hairs with partitions; seeds egg-shaped, 0.8-1.2 mm long, longitudinally marked.

PAPAVERACEAE

1. Leaves entire, opposite .... *Meconella*
1. Leaves toothed to deeply dissected, mostly alternate.
   2. Capsules egg-shaped to round, dehiscent by pores under the top; stem juice milky .... *Papaver*
   2. Capsules narrowly oblong to linear, dehiscent to the base; stem juice watery or orange.
      3. Leaves 3 times divided in threes into linear or linear-oblong segments; stem juice watery .... *Eschscholzia*
      3. Leaves pinnately divided or lobed; stem juice orange .... *Chelidonium*

CHELIDONIUM

***Chelidonium majus* L.**

greater celandine; swallowwort

HABITAT/RANGE:

Mesic to dry roadsides and fields in the lowland and montane zones; rare in SW and SC BC; introduced from Eurasia.

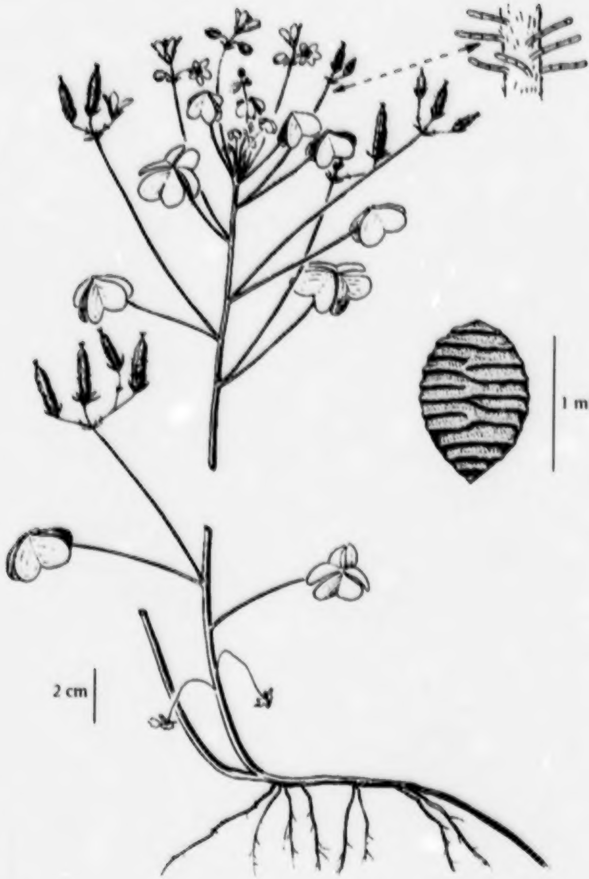
DESCRIPTION:

General: Perennial herb from a taproot and a somewhat woody stem-base; stems erect, branched, few, ribbed, sparsely hairy, 30-80 cm tall, with orange-coloured juice.

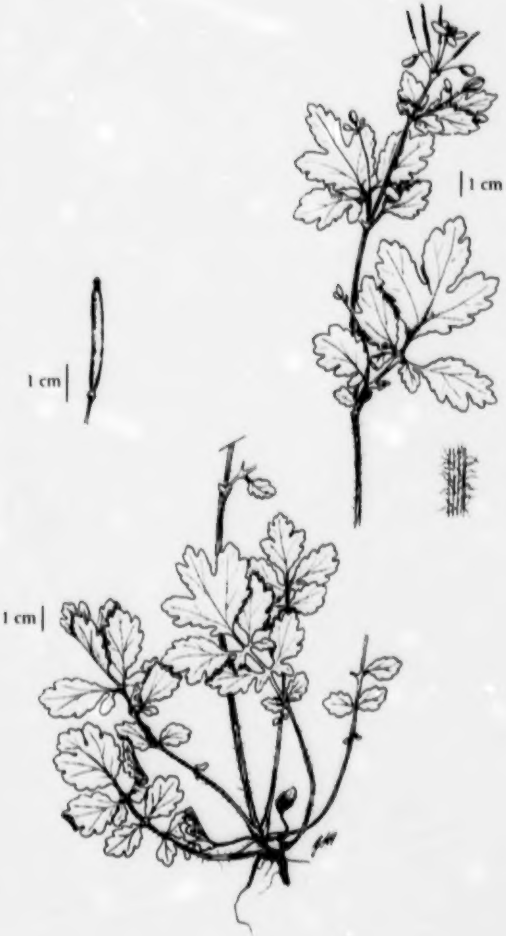
Leaves: Basal leaves bright green above, blue-green and smooth beneath, blades broadly oblong to egg-shaped, pinnately divided to the midvein into round-lobed or toothed segments, 6-25 cm long, the stalks 2-10 cm long; stem leaves similar, alternate.

Flowers: Inflorescence of umbrella-shaped clusters of 3-8 flowers on stalks 2-10 cm long; petals 4, bright yellow, oblong to egg-shaped, 0.8-1 cm long; sepals 2, 0.8-1 cm long.

Fruits: Capsules, linear-cylindrical, 3-5 cm long; seeds black, pitted, with a white-crested appendage.



Oxalis stricta



Chelidonium majus

ESCHSCHOLZIA

Eschscholzia californica **Cham.**

California poppy

HABITAT/RANGE:

Dry roadsides, rock outcrops and waste places in the lowland zone; infrequent on SE Vancouver Island, the Gulf Islands and adjacent mainland; introduced from the W U.S.

DESCRIPTION:

General: Perennial herb from a deep taproot; stems spreading to erect, simple, solitary to several, 10-50 cm tall, smooth, with clear juice.

Leaves: Basal leaves blue-green, blades triangular, 3-times divided in threes, the ultimate segments linear, 4-14 cm long, the stalks 6-20 cm long; stem leaves few, similar, alternate, reduced above.

Flowers: Inflorescence of axillary or terminal saucer-shaped flowers on stalks 6-20 cm long; petals 4, orange-yellow, 0.8-4 cm long, sepals 2, forming a long cone in bud.

Fruits: Capsules, linear, 3-9 cm long; seeds round to ellipsoid, 1.5-1.8 mm long, strongly ridged in a net-veined pattern.

MECONELLA

Meconella oregana **Nutt.**

white meconella

HABITAT/RANGE:

Vernally moist rocky or grassy slopes in the lowland zone; rare on SE Vancouver Island and the Gulf Islands; S to CA.

DESCRIPTION:

General: Annual herb from a slender taproot; stems ascending to erect, solitary, few-branched, smooth, blue-green, 2-10 cm tall.

Leaves: Basal leaves spoon-shaped, simple, 3-18 mm long including the 1-10 mm stalk, entire, blue-green; stem leaves opposite, lanceolate to linear, unstalked, 5-9 mm long.

Flowers: Inflorescence of solitary flowers on slender, erect, axillary or terminal stalks 2-4 cm long; petals usually 6, white, 2.5-4 mm long; sepals usually 3.

Fruits: Capsules, linear, 10-22 mm long, slightly contorted.

PAPAVER[4]

1. Stems leafy, or at least with a few leaves; introduced annuals.
    2. Upper leaves clasping the stems .... *P. somniferum*
    2. Upper leaves not clasping the stems.
        3. Capsules bristly-hairy .... *P. argemone*
        3. Capsules smooth.
            4. Flower stalks markedly spreading stiff-hairy above; capsules less than 2 times longer than wide .... *P. rhoeas*
            4. Flower stalks strongly appressed stiff-hairy above; capsules more than 2 times longer than wide .... *P. dubium*
1. Stems leafless; native perennials.
    5. Bases of capsule hairs light brown or brown.

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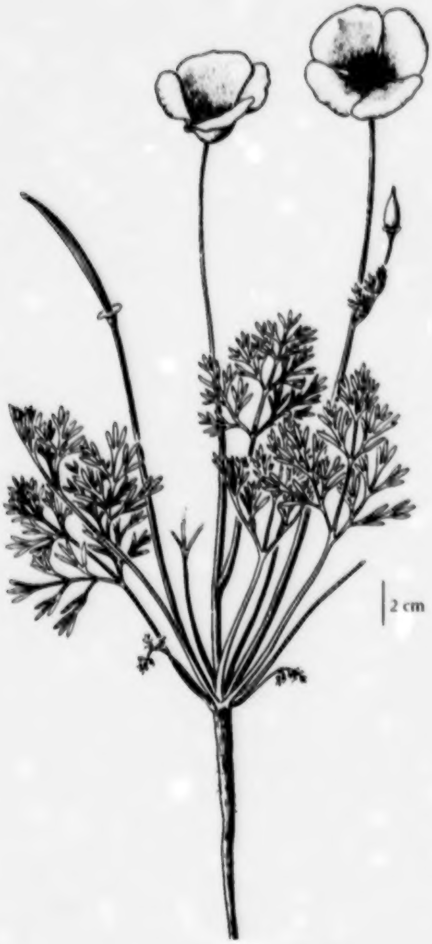
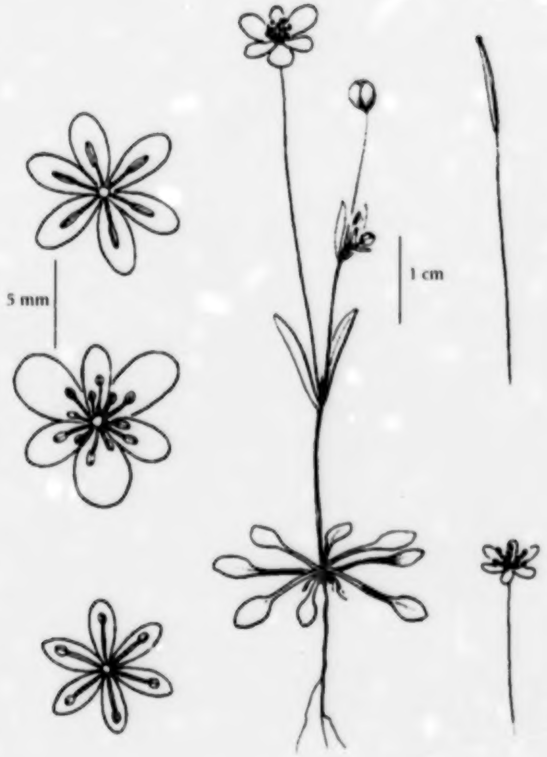
[4] Key adapted from Kiger and Murray (1997).



Eschscholzia californica



Meconella oregana

6. Leaf blades mostly with 5 primary lobes, the lobes mostly simple; plants of N and SE BC .... *P. radicatum*
6. Leaf blades mostly with 5 or more primary lobes, the lobes mostly again divided; plants of NW BC .... *P. lapponicum*

5. Bases of capsule hairs ivory-coloured.
   7. Plants (16) 20-40 cm tall, introduced species in the montane zone .... *P. nudicaule*
   7. Plants 6-15 cm tall, native species in the alpine zone.
      8. Leaf blades smooth or sparsely stiff-hairy; plants of SE BC .... *P. pygmaeum*
      8. Leaf blades bristly-hairy; plants of NW BC .... *P. alboroseum*

***Papaver alboroseum* Hult.**

pale poppy

HABITAT/RANGE:

Mesic to dry scree slopes in the alpine zone; rare in NW BC; amphiberingian, N to AK and YT; Kamchatka.

DESCRIPTION:

General: Perennial herb from a taproot with a stem-base clothed with brown decaying leaf bases; stems decumbent to erect, simple, bowed, spreading stiff-hairy, 6-15 cm tall.

Leaves: Basal leaves 2-4 cm long, the stalks half the leaf length or less, twice divided with 1-2 pairs of primary lateral lobes, these often lobed again, whitish to brownish bristly-hairy; stem leaves lacking.

Flowers: Inflorescence of solitary flowers on brown stiff-hairy stalks; buds nodding, 8-14 mm long; petals 4, white to rose with a basal yellow spot, 12-20 mm long.

Fruits: Capsules, nearly round to ellipsoid, 10-13 mm long, 1-2.5 times longer than wide, bristly-hairy, the hairs ivory-coloured.

***Papaver argemone* L.**

long prickly-headed poppy

HABITAT/RANGE:

Mesic to dry waste places in the lowland zone; rare in SW BC, known only from the Saanich Peninsula and Vancouver area; introduced from Europe.

DESCRIPTION:

General: Annual herb from a short taproot; stems ascending to erect, simple or more usually branched, stiff-hairy, 15-50 cm tall.

Leaves: Basal leaves numerous, oblanceolate, divided into 2-3 pairs of primary lateral lobes which are again divided, long-stalked, stiff-hairy, 8-15 cm long; stem leaves similar, not much reduced above.

Flowers: Inflorescence of solitary, terminal, erect flowers; buds nodding; flower stalks stiff-hairy; petals 4, dark red, often with a dark basal spot, egg-shaped, 1.5-2.2 cm long.

Fruits: Capsules, oblong to club-shaped, bristly-hairy, distinctly ribbed, 1.5-2 cm long.

***Papaver dubium* L.**

blind eyes

HABITAT/RANGE:

Mesic to dry waste places in the lowland zone; rare in SW BC, known only from Victoria and the lower Fraser Valley; introduced from Europe.

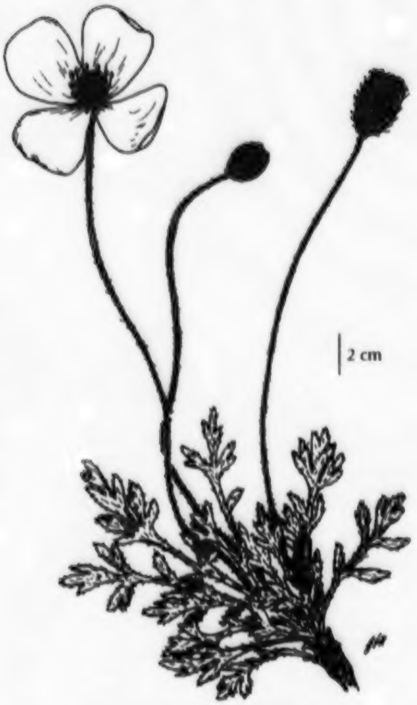
DESCRIPTION:

General: Annual herb from a short taproot; stems erect, simple or branched, spreading stiff-hairy, 30-70 cm tall.

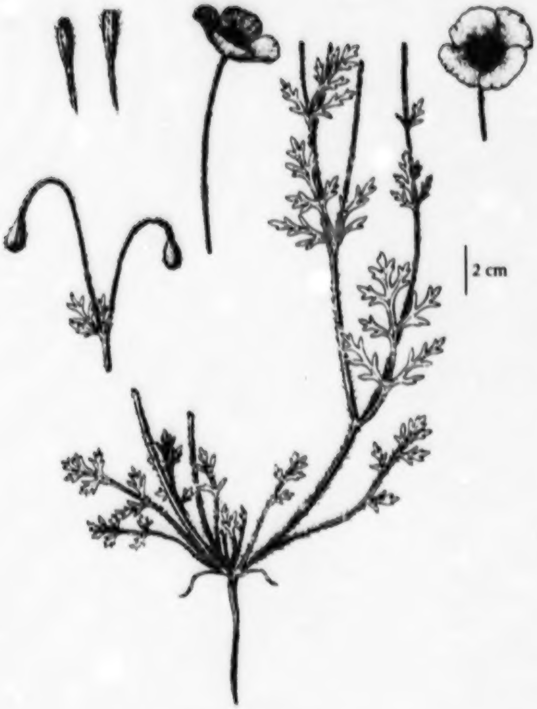
Leaves: Basal leaves few, oblanceolate, divided into 3-4 pairs of primary lateral lobes, short-stalked, spreading stiff-hairy, 10-20 cm long; stem leaves similar, slightly reduced above.

Flowers: Inflorescence of solitary, terminal, erect flowers; buds nodding; flower stalks appressed stiff-hairy; petals 4, orange to red, rarely with a dark basal spot, 1-3 cm long.

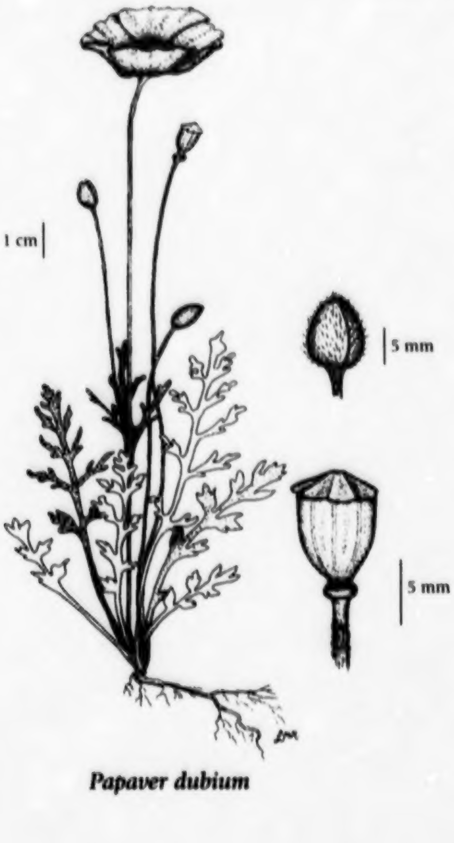
Fruits: Capsules, narrowly egg-shaped, smooth, distinctly ribbed, 1.5-2 cm long.



Papaver alboroseum



Papaver argemone



Papaver dubium

Papaver lapponicum **(Tolm.) Nordh.** (*P. macounii auct. non* Greene)

Macoun's poppy

HABITAT/RANGE:

Mesic to dry scree slopes and gravelly ridges in the subalpine and alpine zones; infrequent in NW BC; amphiberingian, N to AK, YT and NT; E Asia.

DESCRIPTION:

General: Perennial herb from a taproot with a stem-base clothed with some brown decaying leaf bases; stems curved to erect, simple, bowed, sparsely to densely stiff-hairy, 6-35 cm tall.

Leaves: Basal leaves 4-12 cm long, the stalks one-half to three-quarter the leaf length, deeply dissected into elongate or egg-shaped segments, with 2-3 pairs of primary lateral lobes, the lobes mostly again divided, green or grey-green, smooth or sparsely white stiff-hairy; stem leaves lacking.

Flowers: Inflorescence of solitary flowers on erect, straight, nearly smooth to bristly-hairy, 20-30 cm stalks, buds erect, 10-18 mm long; petals 4, yellow, sometimes pinkish-tinged, 1.5-1.8 cm long.

Fruits: Capsules, oblong-ellipsoid, 1.2-2 cm long, 1-2.5 times longer than wide, brown bristly-hairy.

Papaver nudicaule **L.**

Iceland poppy

HABITAT/RANGE:

Mesic to dry, gravelly disturbed areas and roadsides in the montane zone; rare in BC, known only from Manning Park and Radium; introduced from Asia.

DESCRIPTION:

General: Perennial herb from a taproot with a stem-base clothed with brown decaying leaf bases; stems erect, simple, bristly-hairy, (16) 20-40 cm tall.

Leaves: Basal leaves 8-20 cm long, the stalks two-thirds the leaf length, deeply dissected into lanceolate or strap-shaped segments, with 3-4 pairs of primary lateral lobes, nearly smooth or white bristly-hairy above, grey-green below, green above, stem leaves lacking.

Flowers: Inflorescence of solitary flowers on bristly-hairy stalks; petals red, white or yellow, 15-30 mm long.

Fruits: Capsules, nearly round to ellipsoid, conspicuously ribbed, 10-15 mm long, 1.5-2.5 times longer than wide, bristly-hairy, the hairs ivory-coloured.

Papaver pygmaeum **Rydb.** (*P. alpinum auct. non* L.)

dwarf poppy

HABITAT/RANGE:

Dry talus and scree slopes in the alpine zone; rare in SE BC; E to AB and S to NW MT.

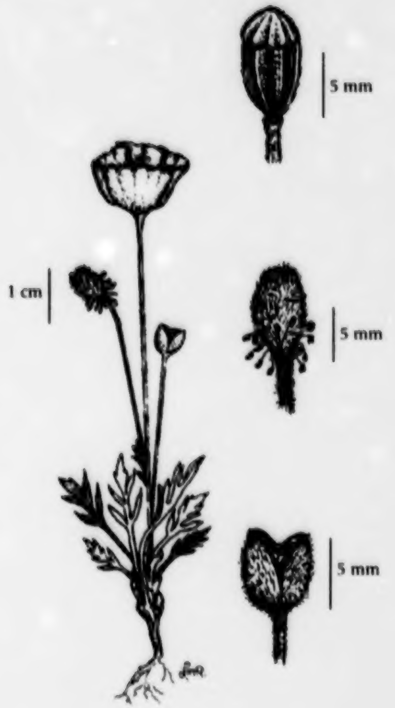
DESCRIPTION:

General: Perennial herb from a taproot with a stem-base clothed with brown decaying leaf bases; stems curved to erect, simple, bowed, spreading stiff-hairy, 6-12 cm tall.

Leaves: Basal leaves 2-5 cm long, the stalks half the leaf length or more, deeply dissected into elongate or egg-shaped segments, with 2 pairs of primary lateral lobes, smooth or sparsely stiff-hairy, blue-green; stem leaves lacking.

Flowers: Inflorescence of solitary flowers on brown bristly-hairy stalks, buds nodding, 8-12 mm long; petals 4, salmon-pink to orange-yellow, sometimes with a basal yellow spot, 8-10 mm long.

Fruits: Capsules, conical or narrowly egg-shaped, 10-13 mm long, 1-2.5 times longer than wide, bristly-hairy, the hairs ivory-coloured.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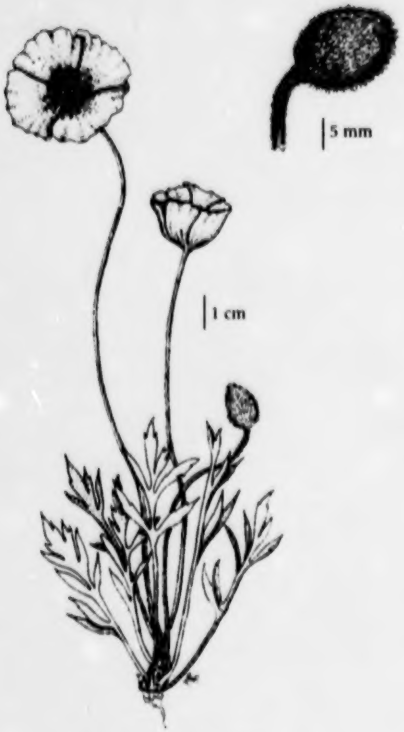
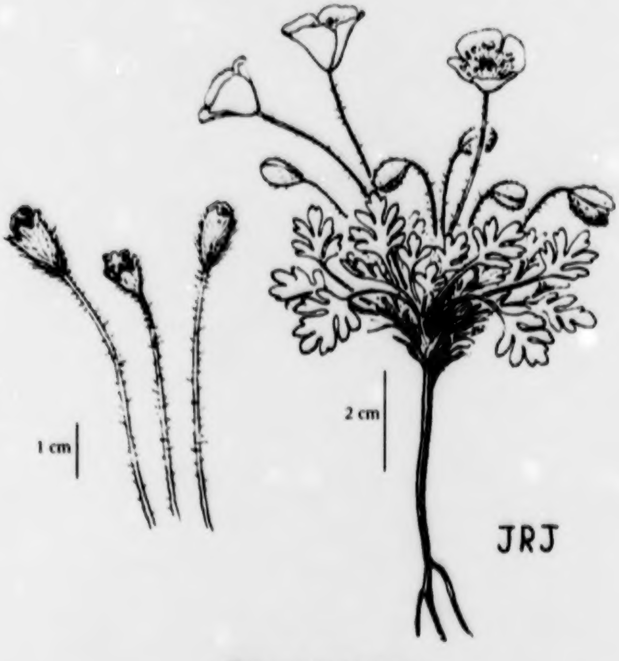
Papaver lapponicum



Papaver nudicaule



Papaver pygmaeum

***Papaver radicatum* Rottb. ssp. *kluanensis* (D. Love) D.F. Murray** (*P. kluanensis* D. Löve, *P. lapponicum* [Tolm.] Nordh. ssp. *occidentale auct. non* [Lundstr.] Knaben)

Arctic poppy

HABITAT/RANGE:

Dry cliffs and talus slopes in the alpine zone; infrequent in N BC, rare S to 52° N; circumpolar, N to AK, YT and NT, E to W AB and S to CO and NM; Lapland.

DESCRIPTION:

General: Perennial herb from a taproot with a stem-base clothed with numerous brown decaying leaf bases; stems curved to erect, simple, bowed, bristly-hairy, 6-18 cm tall.

Leaves: Basal leaves 3-7 cm long, the stalks two-thirds the leaf length, deeply dissected into lanceolate segments, mostly with 1-2 pairs of primary lateral lobes, grey to blue-green above and below, smooth; stem leaves lacking.

Flowers: Inflorescence of solitary flowers on erect, straight, white bristly-hairy, 15-25 cm stalks, buds erect, 8-14 mm long; petals 4, yellow, rarely pinkish-tinged or brick red, 1.5-2.0 cm long.

Fruits: Capsules, ellipsoid to oblong, 0.8-1.2 cm long, light brown, straight, appressed hairy.

***Papaver rhoeas* L.**

corn poppy

HABITAT/RANGE:

Mesic to dry waste places in the lowland zone; rare in SW BC, known only from Vancouver and Victoria; introduced from Eurasia.

DESCRIPTION:

General: Annual herb from a short taproot; stems erect, simple or more usually branched, spreading stiff-hairy, 30-70 cm tall.

Leaves: Basal leaves few, oblanceolate, divided into 3-4 pairs of primary lateral lobes which are again divided, short-stalked, stiff-hairy, 8-15 cm long; stem leaves similar, not much reduced above.

Flowers: Inflorescence of solitary, terminal, erect flowers; buds erect; flower stalks spreading stiff-hairy; petals 4, white, orange, pink or red, usually with a dark basal spot, 1.5-3.5 cm long.

Fruits: Capsules, top-like to nearly round, smooth, obscurely ribbed, 1.5-2 cm long.

***Papaver somniferum* L.**

opium poppy

HABITAT/RANGE:

Mesic to dry roadsides and waste places in the lowland, steppe and montane zones; rare in SW and SC BC; introduced from Eurasia.

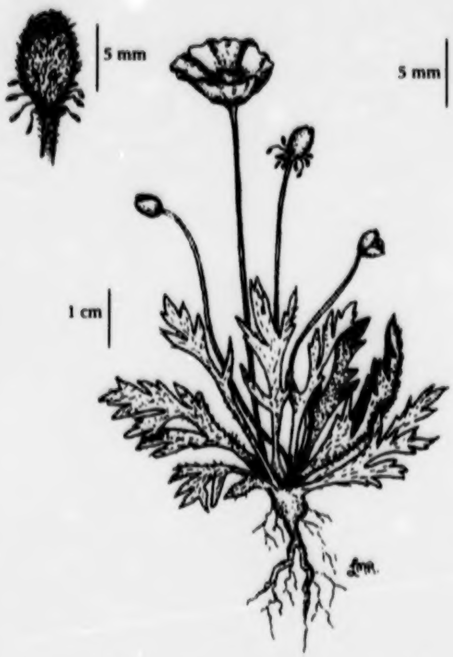
DESCRIPTION:

General: Annual herb from a taproot; stems erect, simple or branching, grey-green, 30-100 cm tall.

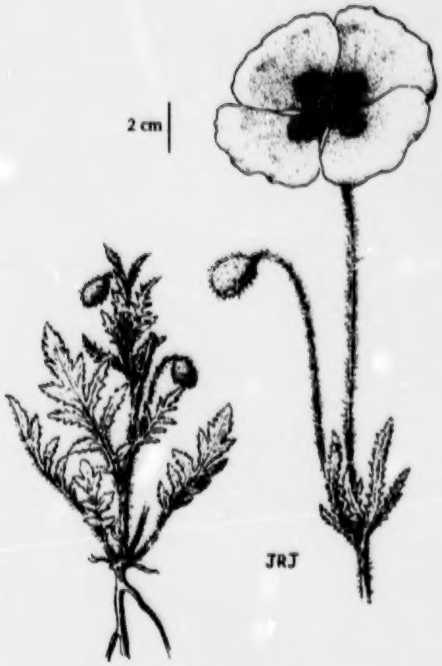
Leaves: Basal leaves lacking or few and soon deciduous; stem leaves oblanceolate, unstalked, the bases heart-shaped and clasping, shallowly lobed, toothed and wavy-margined, 5-30 cm long.

Flowers: Inflorescence of solitary, terminal, erect flowers; buds nodding; the flowers stalks appressed-hairy; petals 4, white to purple or rose, often with a pale to dark basal spot, 2-6 cm long.

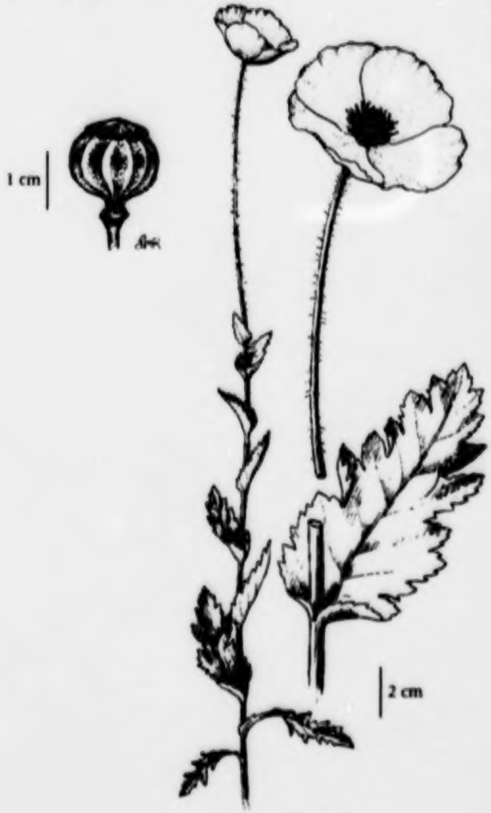
Fruits: Capsules, nearly round, smooth, 2.5-5 cm long.



Papaver radicatum ssp. *kluanensis*



Papaver rhoeas



Papaver somniferum

PARNASSIACEAE

PARNASSIA[5]

1. Petals fringed or comb-like on the lower half .... *P. fimbriata*
1. Petals not fringed or comb-like on the lower half.
    2. Flowering stems bractless or with a near-basal bract; petals 1- to 3 (5)-veined .... *P. kotzebuei*
    2. Flowering stems usually with a bract above the level of the basal leaves; petals 5- to 13-veined.
        3. Petals 7- to 13-veined, 6-12 mm long; sterile stamens cleft into up to 15 slender divisions; leaves often blunt or heart-shaped at base .... *P. palustris*
        3. Petals usually 5-veined, usually 4-7 mm long; sterile stamens cleft into up to 7 slender divisions; leaves tapered at base .... *P. parviflora*

Parnassia fimbriata **Konig**

fringed grass-of-Parnassus

HABITAT/RANGE:

Moist to wet meadows, streambanks, fens, bogs and open seepage sites in forests in the lowland and montane to alpine zones; common throughout BC; N to AK, YT and NT, E to SW AB and S to NM and CA.

DESCRIPTION:

General: Perennial herb from a short, stout rootstock and fibrous root; stems ascending to erect, solitary to several, 15-30 (50) cm tall.

Leaves: Basal leaves kidney-shaped, heart-shaped at the base, wider than long, 2-4 cm wide, entire, glossy green, the stalks 3-10 cm long; stem leaves solitary, reduced, unstalked, clasping, located near midlength on the stem.

Flowers: Inflorescence of single, erect, terminal flowers on leafless stalks; petals 5, white, fringed or comb-like on the lower half, 5- to 7-veined, 8-12 mm long; calyces lobed nearly to the base, the lobes oblong, half as long as the petals; sterile stamens thickened and scalelike, with 7-9 marginal lobes and a central larger lobe, sometimes with 5-many elongate, club-shaped segments.

Fruits: Capsules, egg-shaped, 1 cm long; seeds angled, numerous.

Parnassia kotzebuei **Cham.**

Kotzebue's grass-of-Parnassus

HABITAT/RANGE:

Wet to moist meadows and streambanks in the montane to alpine zones; frequent in BC N of 54° N and east of the Coast-Cascade Mountains, rare southward; amphiberingian, N to AK, YT and NT, E to Labr. and Greenland, S to WA, NV and WY; Siberia.

DESCRIPTION:

General: Perennial herb from a short rootstock and fibrous root; stems erect, mostly solitary, simple, 6-20 cm tall.

Leaves: Basal leaves egg-shaped, abruptly tapered at the base, 0.5-2.5 cm long, entire; stem leaves lacking.

Flowers: Inflorescence of single terminal flowers on leafless stalks, petals 5, white, 1- to 3(5)-veined, elliptic-lanceolate or more or less egg-shaped; calyces lobed nearly to the base, the lobes oblong, about the same length as the petals; sterile stamens with a thin scale ending in 5 short segments or reduced to a bilobed or single scale.

Fruits: Capsules, egg-shaped, 0.8-1 cm long; seeds numerous.

Notes: The supposedly distinct, more southern var. *pumila* C.L. Hitchc. & Ownbey also occurs in northern populations and is therefore of dubious merit (Douglas and Ratcliffe 1981).

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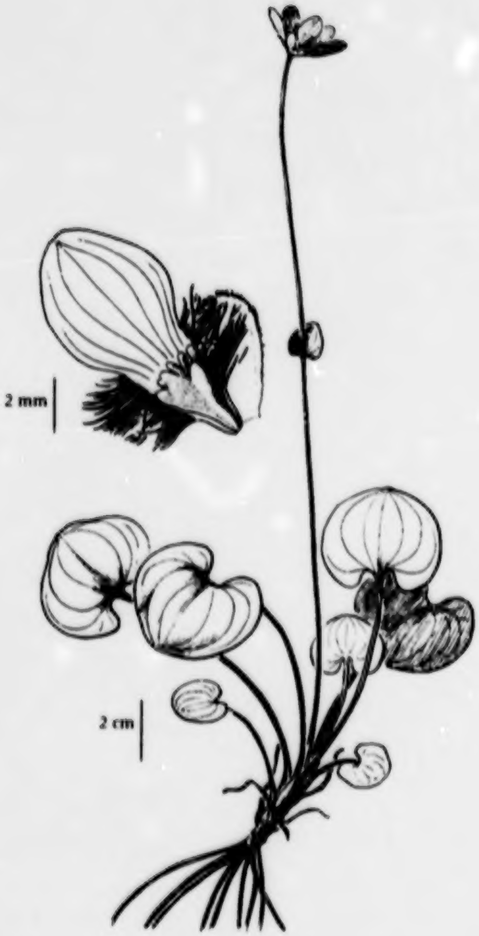
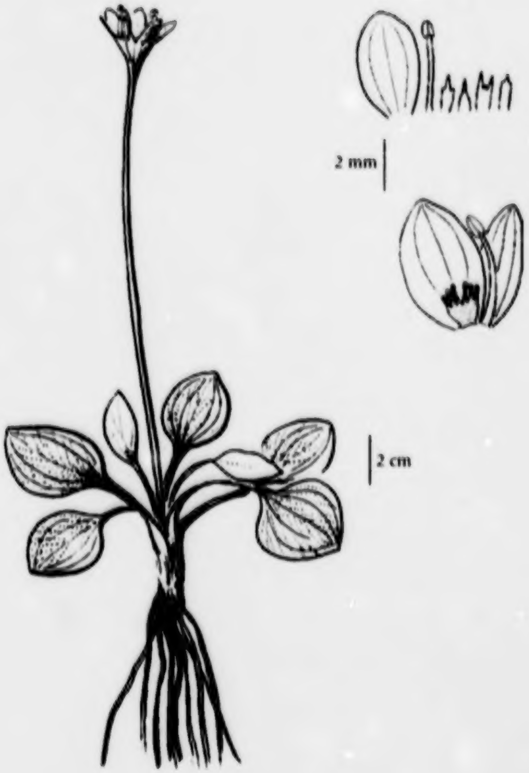
[5] Key adapted from Hitchcock and Cronquist (1973).



Parnassia fimbriata



Parnassia kotzebuei

Parnassia palustris **L.** (*P. palustris* var. *montanensis* [Fern. & Rydb.] C.L. Hitchc., *P. palustris* var. *neogaea* Fern.)
northern grass-of-Parnassus

HABITAT/RANGE:

Moist to wet meadows, fens and streambanks in the montane and subalpine zones; common throughout all but extreme S BC east of the Coast-Cascade Mountains; circumpolar, N to AK, YT and NT, E to NF and S to MI, ND, WY and CA; Iceland, Eurasia.

DESCRIPTION:

General: Perennial herb from a short rootstock and fibrous root; stems ascending to erect, usually solitary, simple, 10-25 (30) cm tall.

Leaves: Basal leaves egg-shaped to elliptic, 1-2 cm long, blunt to heart-shaped at the base, entire, the stalks 1.5-4 times as long as the blades; stem leaves solitary, reduced, 2.8-3 cm long, located below midlength.

Flowers: Inflorescence of single terminal flowers; petals 5, white, narrowly to broadly egg-shaped, 6-12 mm long, usually 7- to 13-veined; sterile stamens with a thickened base flared upwards and divided into 15 slender segments.

Fruits: Capsules egg-shaped, 10-12 mm long; seeds numerous.

Notes: A poorly studied complex.

Parnassia parviflora **DC.** (*P. palustris* L. var. *parviflora* [DC.] Boivin)
small-flowered grass-of-Parnassus

HABITAT/RANGE:

Moist to wet meadows, streambanks, fens and bogs in the montane zone; infrequent in E BC, rare northward; N to SE AK, E to NF and S to WI, SD, ID and MT.

DESCRIPTION:

General: Perennial herb from a short rootstock and fibrous root; stems ascending to erect, usually solitary, simple, 10-30 cm tall.

Leaves: Basal leaves egg-shaped to elliptic, 1-2.5 cm long, tapered basally, entire, the stalks from subequal to 3 times longer than the blade; stem leaves solitary, reduced, lanceolate, 0.7-1.8 cm long, located below midlength.

Flowers: Inflorescence of single terminal flowers; petals 5, white, 4-7 (10) cm long, usually 5-veined, outer veins less conspicuous than the inner ones; sterile stamens with a thickened base flared upwards and divided into 7 slender segments.

Fruits: Capsules, egg-shaped, 7-11 mm long; seeds numerous.

Notes: This species might better be treated as a smaller-flowered variety of *P. palustris*.

PLANTAGINACEAE

PLANTAGO

1. Leaves mostly pinnately cleft or deeply dissected .... *P. coronopus*

1. Leaves entire to shallowly lobed, never pinnately cleft or deeply dissected.

  2. Leaves only on the stems, opposite .... *P. psyllium*

  2. Leaves all basal, the stems leafless.

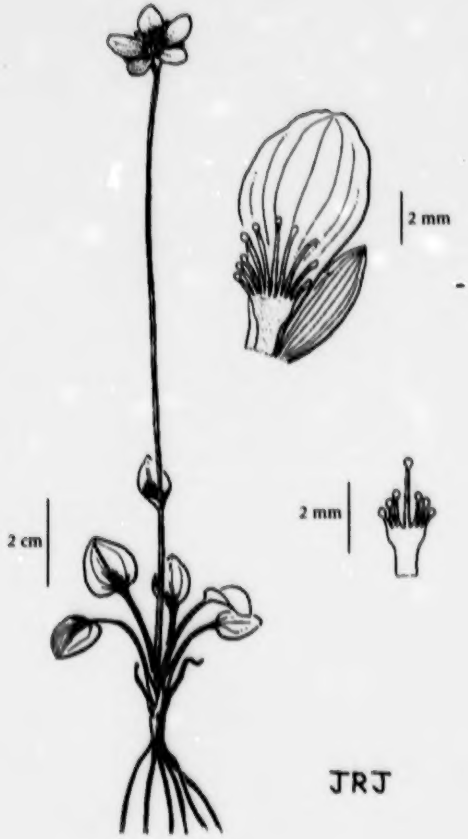
    3. Leaves narrowly to broadly linear, the blade not well differentiated from the stalk.

      4. Corolla tubes hairy; plants perennials .... *P. maritima*

      4. Corolla tubes smooth; plants annuals, sometimes biennials.

        5. Leaves more or less strongly woolly long-hairy .... *P. patagonica*

        5. Leaves smooth or sometimes sparsely hairy .... *P. elongata*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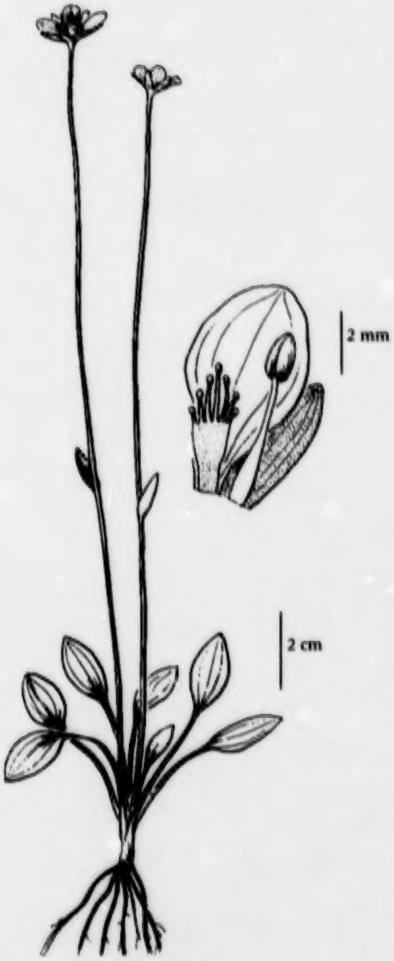
Parnassia palustris



Parnassia parviflora

3. Leaves lanceolate, oblanceolate or elliptic to egg-shaped, the blade usually well differentiated from the stalk.
    6. Plants densely brown-woolly at the base .... *P. eriopoda*
    6. Plants not densely brown-woolly at the base or only sparsely so.
        7. Leaves elliptic to egg-shaped.
            8. Capsules 5- to 25-seeded, the seeds 1 mm long .... *P. major*
            8. Capsules usually 4-seeded, the seeds 2 mm long .... *P. media*
        7. Leaves lanceolate to oblanceolate.
            9. Capsules indehiscent, 5-7 mm long; seeds 4-5 mm long .... *P. macrocarpa*
            9. Capsules dehiscent, 3-3.5 mm long; seeds 1-2 mm long.
                10. Stems not furrowed; sepals free .... *P. canescens*
                10. Stems deeply furrowed; sepals next to the bract united .... *P. lanceolata*

***Plantago canescens* Adams**

Arctic plantain; Siberian plantain

HABITAT/RANGE:

Mesic meadows, grassy slopes and roadsides in the montane and subalpine zones; rare in SE BC, also frequent just N of 60° N in YT; amphiberingian, N to AK, YT and NT, disjunct in SW AB and MT; E Asia.

DESCRIPTION:

General: Perennial herb from a stout taproot; stems erect, several, simple, inconspicuously hairy, not furrowed, 5-30 cm tall.

Leaves: Basal leaves narrowly elliptic to oblong or linear, 5-25 cm long, 0.3-2.5 cm wide, entire, 3- to 5-veined; stem leaves lacking.

Flowers: Inflorescence of dense bracteate spikes, the spikes elongate, 1.5-8 cm long; corollas greenish, 4-lobed, the lobes 1.5-2 mm long, spreading; bracts egg-shaped, shorter than the sepals, fringed; stamens conspicuous.

Fruits: Capsules, egg-shaped, 3-3.5 mm long; seeds 4, elliptic to egg-shaped, brown to black, 1-2 mm long.

***Plantago coronopus* L.**

buck's-horn plantain

HABITAT/RANGE:

Moist gravelly or sandy coastal sites in the lowland zone; rare on SE Vancouver Island; introduced from Eurasia.

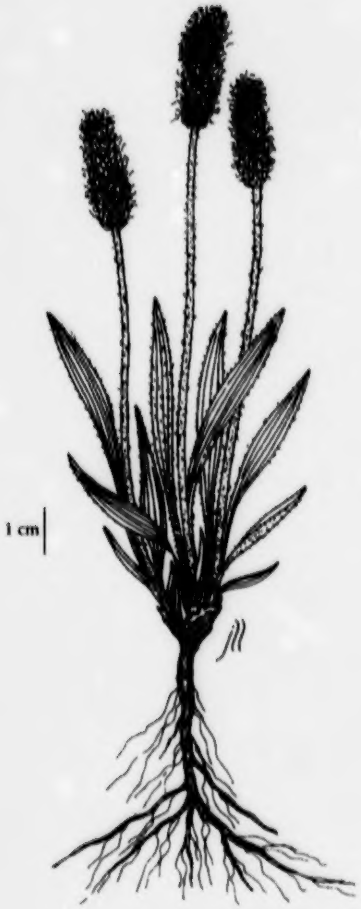
DESCRIPTION:

General: Annual or biennial herb from a taproot; stems erect, several, simple, coarsely hairy, 5-30 cm tall.

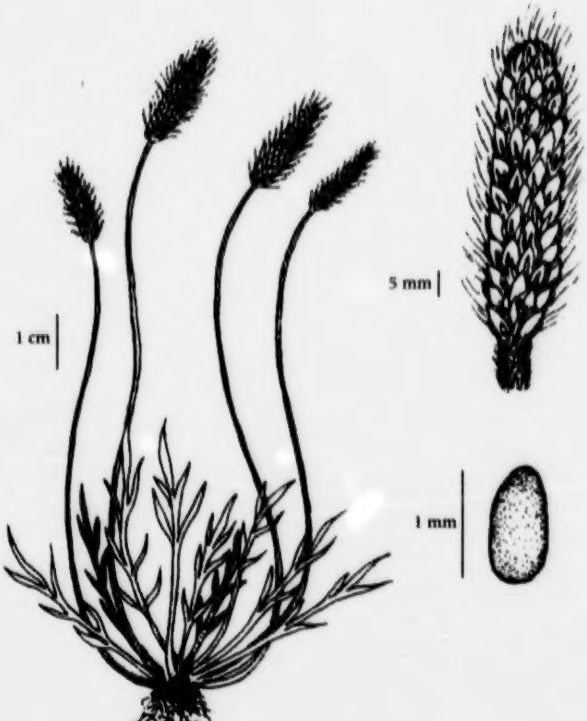
Leaves: Basal leaves narrowly lanceolate, pinnately lobed or deeply dissected, 4-15 cm long, tapered to the base, the lobes ascending, sharp-pointed; stem leaves lacking.

Flowers: Inflorescence of dense bracteate spikes, the spikes elongate, 2-22 cm long; corollas green-brown, 4-lobed, 3 lobes about 1 mm long, spreading and 1 erect, all narrowly egg-shaped; bracts equal to or twice as long as the sepals, round at the base, long pointed at the tips; stamens conspicuous.

Fruits: Capsules, broadly egg-shaped, 2-3 mm long; seeds usually 3, the larger one about 1.5 mm long and sometimes partly winged, the smaller ones less than 1 mm long.



Plantago canescens



Plantago coronopus

***Plantago elongata* Pursh** (*P. bigelovii* A. Gray, *P. elongata* ssp. *pentasperma* Bassett)

slender plantain

HABITAT/RANGE:

Moist to dry coastal shores and bluffs in the lowland zone, also in alkaline sites inland in the steppe zone; locally frequent on SE Vancouver Island, the Gulf Islands and adjacent coast, rare in SC BC; E to MB and S to TX, CO, NV and CA.

DESCRIPTION:

General: Annual herb from a well-developed taproot; stems erect, numerous, simple, rough-hairy or sometimes smooth, often woolly at the base, 3-20 cm tall.

Leaves: Basal leaves linear, tapering towards the base, smooth or sparsely hairy, 2-10 cm long, 0.3-1.5 mm wide, entire; stem leaves lacking.

Flowers: Inflorescence of dense bracteate spikes, the spikes elongate, 1-10 cm long, smooth; corollas green, 4-lobed, the lobes less than 1 mm long, erect to reflexed, some plants with nonfunctioning stamens while others with reduced or nonfunctioning pistils; bracts broadly egg-shaped, spurred, equal to the sepals, 2 mm long.

Fruits: Capsules, egg-shaped, 2-3 mm long; seeds 4, or sometimes 5 or 6, elliptic-oblong, 1.3-2 mm long, pitted at maturity.

Notes: Specimens of *P. bigelovii* and *P. elongata* annotated and cited in Bassett (1973) were not readily distinguishable in the herbaria studied. This was also noted by Cronquist (1984).

***Plantago eriopoda* Torr.**

alkali plantain; saline plantain

HABITAT/RANGE:

Wet to moist alkaline meadows and salt marshes in the montane zone; rare in NW and SE BC; N to YT and NT, E to PQ and S to NB, CO, CA and MX.

DESCRIPTION:

General: Perennial herb from woolly-hairy, woody stem-base and taproot; stems erect, numerous, simple, smooth except above, 10-55 cm tall.

Leaves: Basal leaves elliptic to oblong, 5-25 cm long, 0.6-4 cm wide, 3- to 5-veined, entire, stalked; stem leaves lacking.

Flowers: Inflorescence of dense to loose bracteate spikes, the spikes elongate, 5-20 cm long; corollas brown, 4-lobed, the lobes 1-1.5 mm long, spreading or reflexed; bracts egg-shaped to elliptic, appressed to the sepals; stamens inconspicuous.

Fruits: Capsules, egg-shaped, 3-4 mm long; seeds 2-4, ellipsoid, brown to black, 2-2.5 mm long, smooth to pitted.

***Plantago lanceolata* L.**

ribwort plantain; English plantain

HABITAT/RANGE:

Mesic to dry lawns, fields and waste places in the lowland, steppe and montane zones; common in SW BC, infrequent N along the coast and E in BC; introduced from Eurasia.

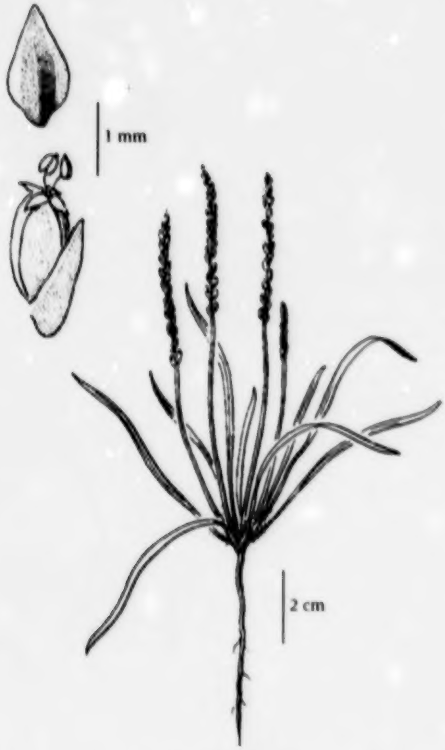
DESCRIPTION:

General: Perennial herb from a short, stout, erect stem-base and taproot with secondary fibrous roots, the stem-base somewhat brown woolly-hairy; stems erect, few, simple, finely grooved, short stiff-hairy, 15-45 (60) cm tall.

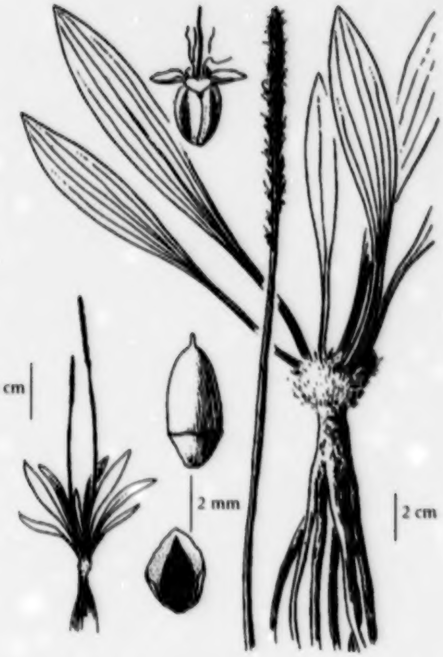
Leaves: Basal leaves lanceolate to oblanceolate or narrowly elliptic, smooth to long-hairy, 3- to several-veined, 10-35 cm long, 1-4 cm wide, stalked, entire; stem leaves lacking.

Flowers: Inflorescence of dense bracteate spikes, the spikes more or less egg-shaped, becoming cylindric, 1.5-8 cm long, almost 1 cm thick; corollas greenish, 4-lobed, the lobes 2-2.5 mm long, spreading or reflexed; bracts widely egg-shaped, more or less equal to the sepals, thin, pointed; sepals next to the bract united; stamens conspicuous, yellow.

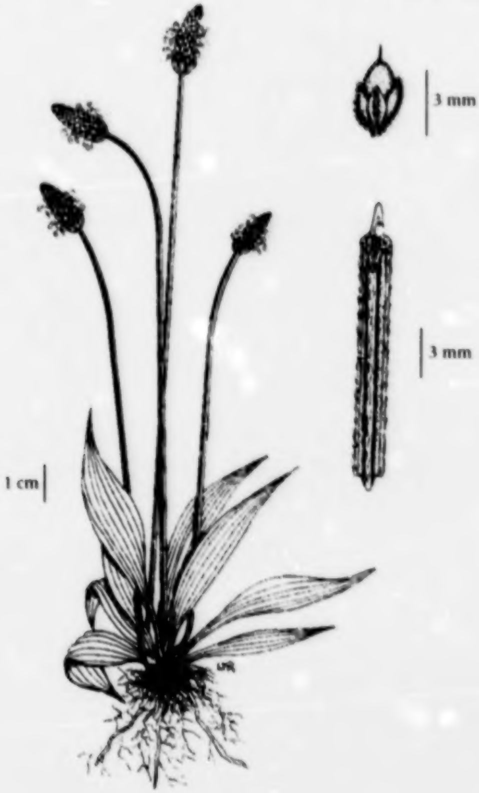
Fruits: Capsules, narrowly egg-shaped, 3-4 mm long; seeds 2, rarely 1, ellipsoid, shining, blackish, minutely roughened, 2-3 mm long, deeply concave.



Plantago elongata



Plantago eriopoda



Plantago lanceolata

***Plantago macrocarpa* Cham. & Schlecht.**

Alaska plantain

HABITAT/RANGE:

Moist to wet meadows, beaches, upper tidal marshes, shorelines and bogs in the lowland zone; infrequent along the coast in BC; amphiberingian, N to S AK and S to OR, E Asia.

DESCRIPTION:

General: Perennial herb from a stout taproot; stems erect, numerous, simple, hollow, smooth or sometimes hairy above when young, 25-45 (60) cm tall.

Leaves: Basal leaves lanceolate to oblanceolate, smooth, several-veined, 10-45 cm long, 1-3.5 cm wide, narrowed at the base to the distinct stalks, entire; stem leaves lacking.

Flowers: Inflorescence of short, dense, bracteate spikes, the spikes short at first then elongate, 5-15 cm long; corollas greenish to brownish, 4-lobed, the lobes 1.5-2 mm long, spreading; bracts shorter than the flowers; stamens conspicuous.

Fruits: Capsules, egg-shaped, 5-7 mm long; seeds 1-2, black, slightly concave, roughened.

***Plantago major* L.**

common plantain

HABITAT/RANGE:

Mesic to dry lawns, fields, roadsides and waste places in the lowland, steppe and montane zones; common in SW BC, less frequent elsewhere; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a fibrous root; stems erect, several, simple, smooth or stiff-hairy, 5-50 cm tall.

Leaves: Basal leaves broadly elliptic to lanceolate or egg-shaped, tapered into long stalk, entire or irregularly toothed, 4-18 cm long, 2.5-11 cm wide, strongly parallel-veined; stem leaves lacking.

Flowers: Inflorescence of dense, narrow, bracteate spikes, the spikes less than 1 cm thick, 5-30 cm long, smooth; corolla greenish, 4-lobed, the lobes deltoid, 0.4-0.5 mm long; bracts 2-4 mm long, thin-margined; stamens inconspicuous.

Fruits: Capsules, egg-shaped, 2.5-4 mm long; seeds 5-25, black or brown, 1 mm long, finely veined.

***Plantago maritima* L. ssp. *juncoides* (Lam.) Hult.**

sea plantain; seaside plantain

HABITAT/RANGE:

Salt marshes and coastal beaches in the lowland zone; common along the coast, rare inland in NW BC (Mess Lake Mineral Springs); coastal N America and S America.

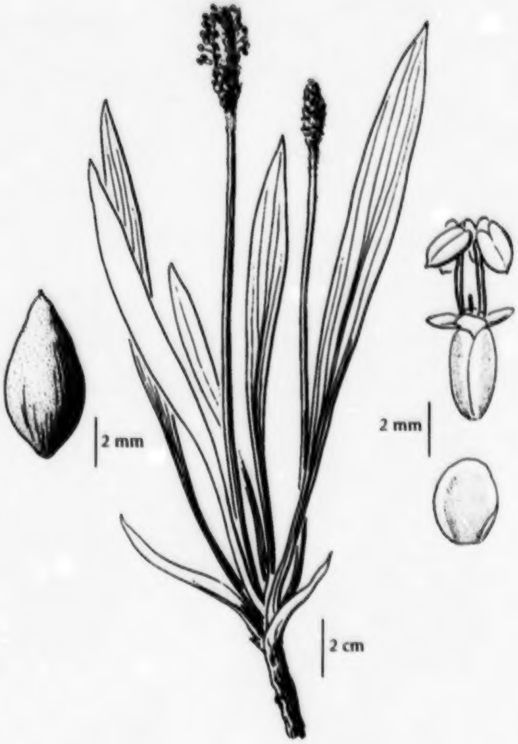
DESCRIPTION:

General: Perennial (rarely annual) herb from a sometimes woolly, short-branched crown and a taproot; stems ascending to erect, several, simple or rarely short branched, smooth or spreading-hairy, 5-25 cm tall.

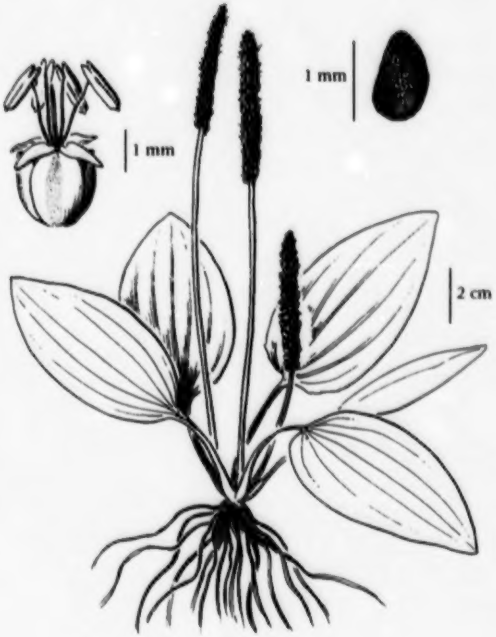
Leaves: Basal leaves lanceolate or more often linear, 12-22 cm long, tapering gradually into the winged stalks, entire or irregularly short-toothed, smooth or slightly hairy, 3- to 5 (7)-veined; stem leaves lacking.

Flowers: Inflorescence of dense or lax, bracteate spikes, 2-10 cm long; corollas greenish, hairy outside, 4-lobed, the lobes 1-1.5 mm long, spreading; bracts broadly egg-shaped, shorter than the flowers, minutely fringed; stamens conspicuous.

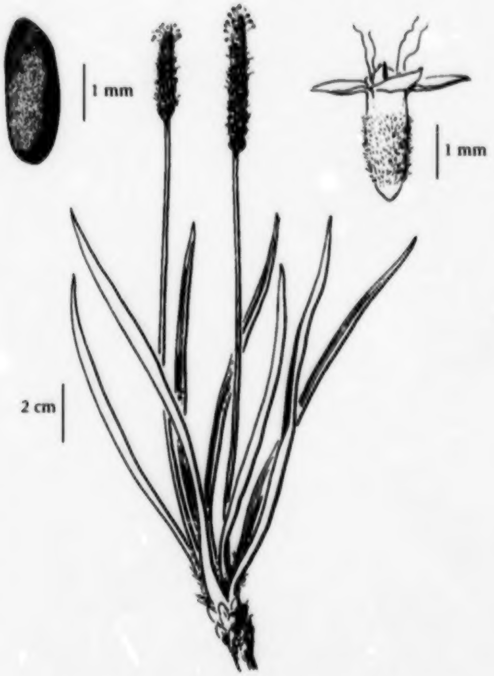
Fruits: Capsules, egg-shaped to broadly conic, 3-4 mm long; seeds 2-4, ellipsoid, about 2 mm long, brown or black, flat on the inner surface.



Plantago macrocarpa



Plantago major



Plantago maritima ssp. *juncoides*

Plantago media **L.**

hoary plantain

HABITAT/RANGE:

Mesic to dry lawns, fields and waste places in the lowland, steppe and montane zones; rare in S BC; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a short, stout stem-base and a long taproot; stems erect, few, simple, straight appressed-hairy, 10-40 (60) cm tall.

Leaves: Basal leaves elliptic or egg-shaped, tapering at the ends, short-stalked, 4-30 cm long, entire or slightly irregularly toothed, white-hairy, 3- to 7-veined; stem leaves lacking.

Flowers: Inflorescence of dense bracteate spikes with fragrant flowers, 2-10 cm long; corollas greenish, 4-lobed, the lobes 1.2-1.5 mm long; bracts broadly egg-shaped with papery margins; stamens conspicuous.

Fruits: Capsules, egg-shaped, 2.8-3 mm long; seeds 2-4, slightly concave, brown to black, wrinkled, 1.8-2 mm long.

Plantago patagonica **Jacq.** (*P. gnaphaloides* Nutt., *P. patagonica* var. *spinulosa* [Dcne.] A. Gray, *P. purshii* Roem. & Schult.)

woolly plantain; Indian-wheat

HABITAT/RANGE:

Dry slopes, fields and roadsides in the steppe and lower montane zones; locally frequent in SC BC, rare in SE BC; E to MB and S to TX and CA; S. America.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, several, simple, strongly woolly-hairy, 5-20 cm tall.

Leaves: Basal leaves linear, long-hairy, 3-13 cm long, 1-7 mm wide, tapering gradually towards the ends, 3-veined; stem leaves lacking.

Flowers: Inflorescence of dense, woolly-hairy spikes, 1.5-10 cm long, under 1 cm wide; corollas brownish, 4-lobed, the lobes spreading, 1.5-2 mm long; bracts firm, linear with scarious margins at the base, 5 mm long; stamens inconspicuous.

Fruits: Capsules, ellipsoid, 3-4 mm long; seeds 2, light brown, finely veined, 1.5-2 mm long.

Notes: Some long-bracted BC plants have been recognized as var. *spinulosa*.

Plantago psyllium **L.**

whorled plantain; sand plantain

HABITAT/RANGE:

Mesic to dry roadsides and waste places in the lowland, steppe and montane zones; rare in S BC; introduced from Eurasia.

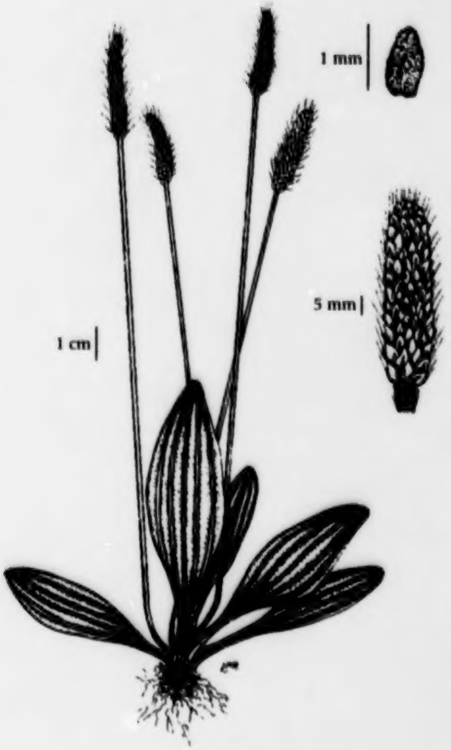
DESCRIPTION:

General: Annual or short-lived perennial herb from well-developed taproot; stems erect, solitary, freely branched, hairy, 10-50 cm tall.

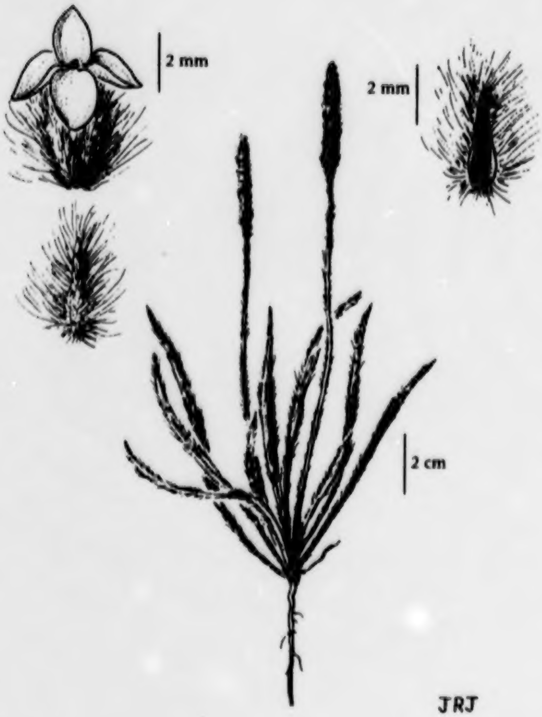
Leaves: Basal leaves linear, soon deciduous; stem leaves linear or linear-lanceolate, opposite, stiff-hairy, entire or occasionally slightly toothed, 2-8 cm long, 1-3 mm wide, with several smaller, linear, axillary leaves at each internode.

Flowers: Inflorescence of dense bracteate, axillary spikes 0.5-1.5 cm long on stalks 2-8 cm long; corollas 4-lobed, the lobes egg-shaped, reflexed, 1.5-2 mm long; bracts wide, rounded, papery-margined, lowermost leaf-like; stamens conspicuous.

Fruits: Capsules, broadly-ellipsoid, 3-3.5 mm long; seeds 2, narrowly elliptic, shiny, brown, 2.0-2.5 mm long.



Plantago media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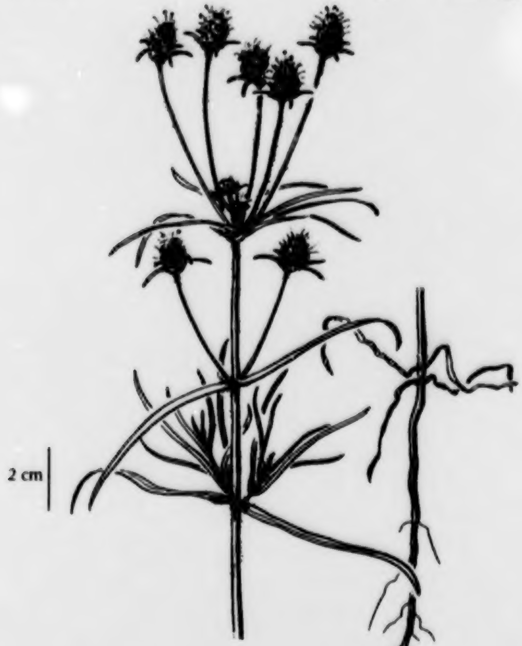
Plantago patagonica



Plantago psyllium

PLUMBAGINACEAE

ARMERIA

Armeria maritima **(Mill.) Willd.** (*A. maritima* ssp. *arctica* [Cham.] Hult. and ssp. *purpurea* [Koch] Löve & Löve = ssp. *sibirica*; *A. californica* Boiss = ssp. *californica*)

thrift; sea-pink

HABITAT/RANGE:

Moist to mesic beaches and coastal bluffs in the lowland zone; infrequent along the coast, absent from the Queen Charlotte Islands; ssp. *sibirica* – N to AK and S to WA, ssp. *californica* – from Vancouver Island to CA.

DESCRIPTION:

General: Perennial herb from a taproot; stems erect, solitary or several, simple, smooth, 10-50 cm tall.

Leaves: Basal leaves linear, smooth to fringed and hairy, entire, 5-10 cm long, 1-3 mm wide, persistent, stem leaves lacking.

Flowers: Inflorescence of dense, head-like flower clusters, 1.5-3 cm wide; flowers short-stalked in clusters of 3, subtended by 2 transparent bracts; corollas pinkish to lavender, deeply 5-lobed; calyces pinkish to lavender, 5-6 mm long, soft-hairy, 10 veined, longer than the corollas; outer involucral bracts purplish with papery margins.

Fruits: Utricles, small, dry, 1-chambered; seeds 1.

Notes: Two subspecies are recognized in BC:

1. Outer involucral bracts narrowly tapered or awl-shaped, surpassing the inner ones; leaves smooth .... ssp. *californica* (Boiss.) Porsild

1. Outer involucral bracts egg-shaped to rounded, usually shorter than the inner ones; leaves usually minutely fringed below .... ssp. *sibirica* (Turcz. *ex* Boiss.) Nyman

POLEMONIACEAE[6]

1. Leaves opposite, sometimes the uppermost alternate.
    2. Leaves palmately 3- to 9-cleft nearly to the base .... *Linanthus*
    2. Leaves entire or nearly so. .... *Phlox*
1. Leaves alternate, sometimes the lowermost opposite.
    3. Calyx tubes of essentially uniform texture throughout, not ruptured by the developing capsule.
        4. Leaves pinnately compound with definite leaflets; plants perennials (except *P. micranthum*) .... *Polemonium*
        4. Leaves entire or more or less pinnately cleft below but without definite leaflets; plants annuals .... *Collomia*
    3. Calyx tubes with green ribs separated by transparent tissue, usually ruptured by the developing capsule.
        5. Leaves about 1 cm long, or less, firm, prickly; plants shrubby .... *Leptodactylon*
        5. Leaves more than 1 cm long, not firm or prickly; plants herbs.
            6. Calyx lobes more or less unequal, large ones often 3-cleft .... *Navarretia*
            6. Calyx lobes equal or nearly so, simple.
                7. Corollas phlox-like (slender tube abruptly spreading to lobes), 15-35 mm long and bright red, or 4-7 mm long and white to pale blue, and then the leaves entire and linear above to 3-cleft with narrow segments below .... *Ipomopsis*
                7. Corollas bell- or funnel-shaped, 3-11 mm long, pale blue to bluish-lavender; leaves entire and broadly lanceolate above to coarsely toothed or pinnately cleft below; or corollas 1.5-3 mm long and leaves all or nearly all entire (*G. tenerrima*) .... *Gilia*

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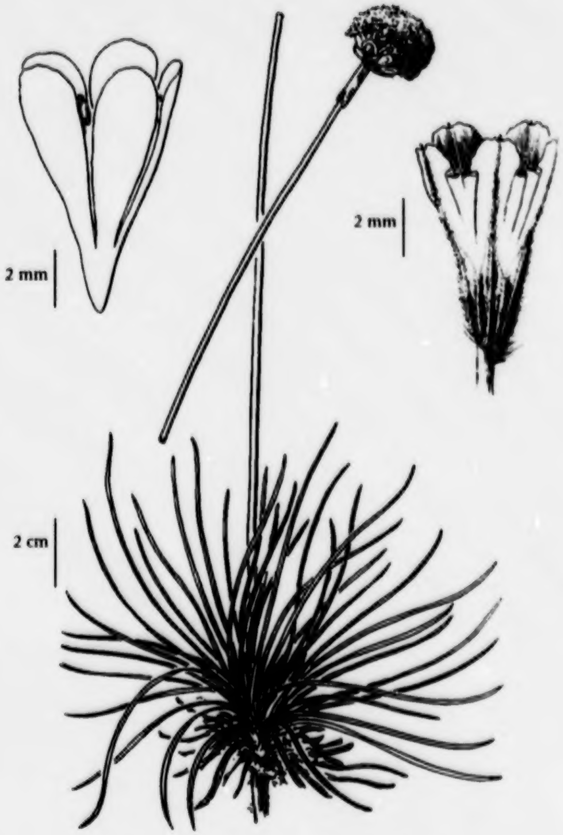
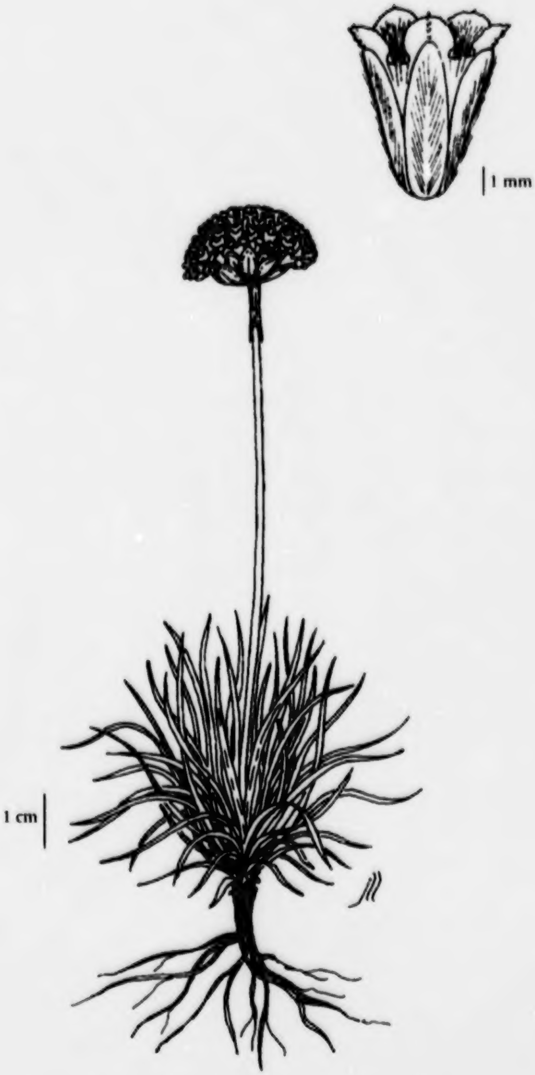
[6] Contributed by J. Pojar.



Armeria maritima ssp. *californica*



Armeria maritima ssp. *sibirica*

COLLOMIA[7]

1. Leaves, at least the lower ones, once or twice pinnately cleft; chambers of capsule 2- to 3-seeded. .... *C. heterophylla*
1. Leaves entire; chambers of capsule 1-seeded.
    2. Stems branched, the branches spreading; flowers borne singly or in pairs in the forks as well as at the ends of the branches. .... *C. tenella*
    2. Stems mostly unbranched, erect; inflorescence head-like, terminal.
        3. Corollas yellow to orange, the tubes 20-30 mm long, the lobes 5-10 mm long; pollen generally blue .... *C. grandiflora*
        3. Corollas white to pink, the tubes 8-15 mm long, the lobes 1.5-3 mm long; pollen generally white .... *C. linearis*

Collomia grandiflora **Dougl. *ex* Lindl**
large-flowered collomia
HABITAT/RANGE:

Dry to mesic meadows, rocky slopes, and openings in shrublands and forests in the lowland, steppe, and montane zones; infrequent on S Vancouver Island, the Gulf Islands and the lower Fraser Valley, locally frequent in SC BC; S to MT, WY, AZ and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, unbranched when small but can have axillary branches if robust, finely hairy below, long-hairy and glandular or sticky above, 0.1-1 m tall.

Leaves: Basal leaves somewhat lobed, soon deciduous; stem leaves alternate, numerous, linear or lanceolate, 1-7 cm long, 2-13 mm wide, generally hairless above, glaucous and slightly glandular below, entire (basal somewhat lobed), the upper leaves (below the flower clusters) wider than the rest.

Flowers: Inflorescence of 1 to several, terminal, head-like clusters of unstalked flowers; corollas salmon-pink or yellow, the slender, flaring tube 20-30 mm long, spreading to five, 5-10 mm long lobes; calyces 7-10 mm long, the five lanceolate lobes to 4 mm long; pollen generally blue.

Fruits: Capsules, with 1-seeded chambers; seeds becoming sticky when moistened.

Collomia heterophylla **Hook.**
vari-leaved collomia
HABITAT/RANGE:

Mesic forest openings, sandy or gravelly clearings, and streambanks in the lowland zone; locally frequent on S Vancouver Island, infrequent on the adjacent coast and lower Fraser Valley; S to ID, WY, AZ and CA.

DESCRIPTION:

General: Annual or biennial herb from a taproot; stems ascending to erect, simple or much-branched with several stems from the base, slimy-hairy especially above, 5-40 cm tall.

Leaves: Alternate, mostly stalked, usually hairy and slightly glandular; lower leaves 1-2 times pinnately cleft, the blades to 3.5 cm long and 2 cm wide; middle and upper leaves progressively less divided upwards, the uppermost leaves (below the flower clusters) smaller than the others, nearly unstalked, elliptic, merely toothed or entire.

Flowers: Inflorescence of dense, head-like, terminal (and sometimes axillary) clusters; corollas pink, lavender or white, the slightly flaring tube 8-17 mm long, spreading to five, 3- 4 mm long lobes; calyces 5-8 mm long, the five lobes narrowly lanceolate.

Fruits: Capsules, with 2- or 3-seeded chambers; seeds becoming sticky when moistened.

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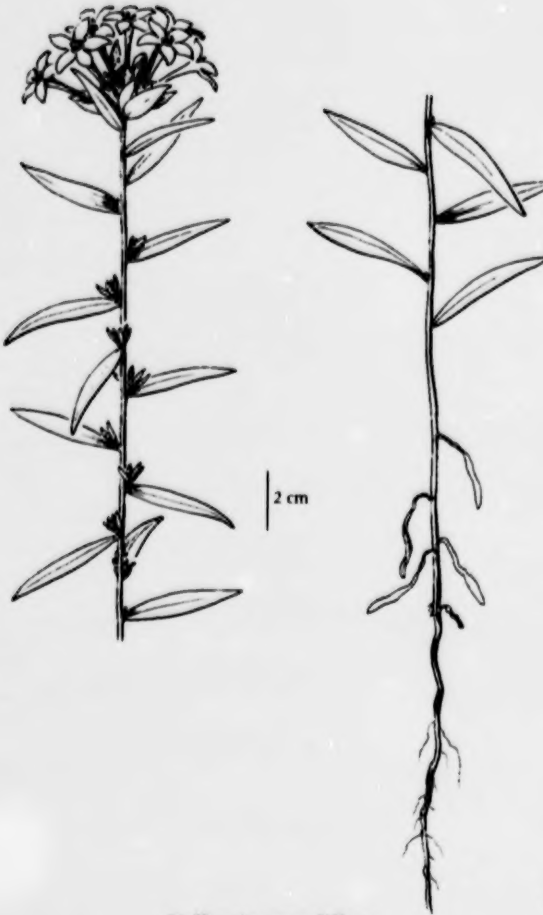
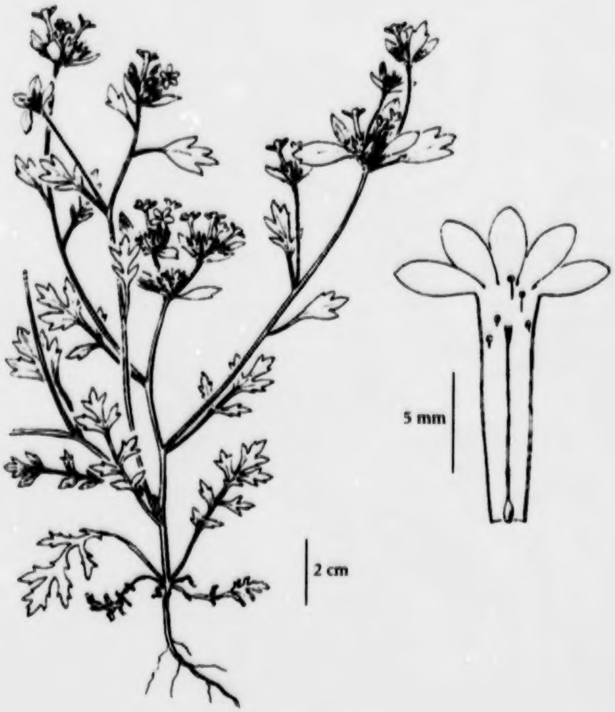
[7] Key adapted from Hitchcock and Cronquist (1973).



Collomia grandiflora



Collomia heterophylla

Collomia linearis **Nutt.**

narrow-leaved collomia

HABITAT/RANGE:

Dry to moist open grasslands, clearings, old fields, roadsides, and other disturbed sites in the lowland, steppe, and montane zones; common in S BC, less so northward where possibly introduced in some localities; N to AK, YT and NT, E to NB and NS and S to NE, WI, NM and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, unbranched or branched above in robust plants, finely hairy below but long-hairy and glandular above, 10-60 cm tall.

Leaves: Alternate, numerous, linear or lanceolate, 1-5 cm long, 1-10 mm wide, generally hairless above, glaucous and minutely hairy and slightly glandular below, unstalked, entire; uppermost leaves (below the flower clusters) wider than the rest and often pale at the base.

Flowers: Inflorescence of 1 to several, terminal, head-like clusters of 7-20 unstalked flowers; corollas pink, bluish or white, the slender, trumpet-shaped tube 8-15 mm long, spreading to five short (1.5-3 mm) lobes; calyces 4-7 mm long, the five narrowly triangular lobes 1.5-3 mm long during flowering but elongating to 3-4 mm in fruit; pollen generally white.

Fruits: Capsules, with 1-seeded chambers; seeds becoming sticky when moistened.

Collomia tenella **A. Gray**

slender collomia

HABITAT/RANGE:

Dry open areas, sagebrush flats and claybanks in the steppe and montane zones; rare in extreme SC BC, known only from the Princeton area, Similkameen Valley; S to UT and NV.

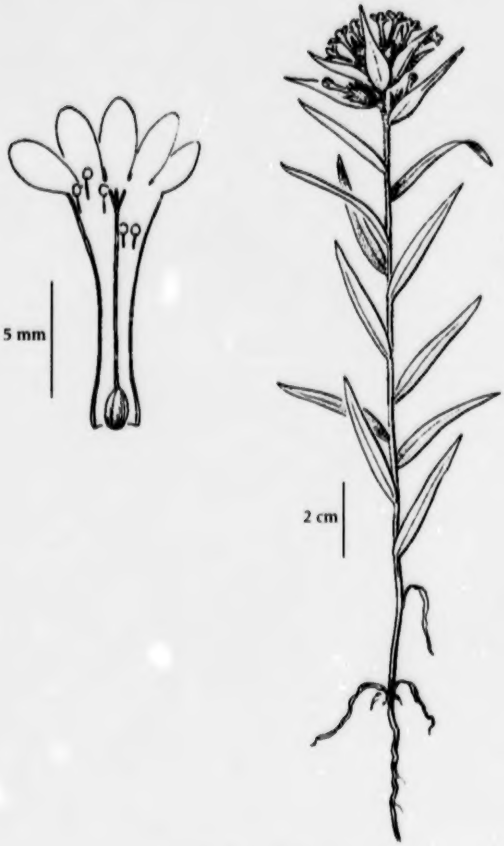
DESCRIPTION:

General: Annual herb from a taproot; stems ascending to spreading, freely branched, with stalked glands at least on the upper part, to 15 cm tall.

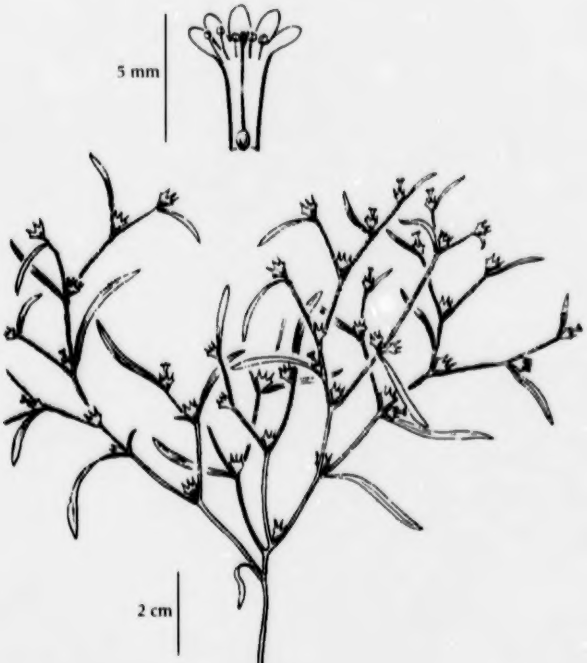
Leaves: Alternate, linear, 1-5 cm long, 1-5 mm wide, entire.

Flowers: Single or in pairs along and at the ends of the branches (stems branched so that the nearly stalkless flowers appear to be borne in the forks of the branches and in the axils of the leaves); corollas pinkish to white, 4-6 mm long, the short tube spreading to five lobes; calyces 1/2-2/3 as long as the corollas, bowed out and often forming purplish knobs at the sinuses, the triangular teeth 1-2 mm long.

Fruits: Capsules, with 1-seeded chambers; seeds becoming sticky when moistened.



Collomia linearis



Collomia tenella

GILIA

1. Flowers borne in dense terminal heads; leaves pinnately cleft throughout .... *G. capitata*

1. Flowers borne in open inflorescences; leaves entire to lobed.

    2. Leaves mostly near the base of the stem, entire to coarsely toothed, the lower ones often deeply pinnately lobed .... *G. sinuata*

    2. Leaves well distributed along the stem, mostly entire .... *G. tenerrima*

Gilia capitata **Sims var.** ***capitata***

globe gilia

HABITAT/RANGE:

Dry, sandy, gravelly or rocky waste places in the lowland, steppe, and montane zones; rare in S BC, where probably introduced; WA and OR; S to N ID and CA; reported as introduced in AK and YT.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, slender, simple or few-branched, hairless or glandular-hairy or obscurely white-woolly, 15-100 cm tall.

Leaves: Basal leaves pinnately cleft, the lowermost 1 to 2 times pinnately cleft with slender axis and narrow ultimate segments 1-15 mm long, 1-2 mm wide; stem leaves similar to the basal, alternate, reduced upwards, the axils and midribs generally white-hairy.

Flowers: Inflorescences dense, ball-like clusters of 50 to 100 stalkless flowers, the clusters on long bractless stalks terminating the stem and branches; corollas pale blue, 6-10 mm long, the tube flaring to five linear-oblong (1 mm wide) lobes about as long as the tube; calyces expanded in fruit, the five lobes pointy-tipped.

Fruits: Capsules, egg-shaped to spherical, with three 1- to 3-seeded chambers; seeds 1.5 mm long, becoming sticky when moistened.

Gilia sinuata **Dougl.** ***ex*** **Benth.** (*G. inconspicua* [Sm.] Sweet var. *sinuata* [Dougl. *ex* Benth.] A. Gray)

shy gilia

HABITAT/RANGE:

Dry, open, sandy flats in the steppe zone; rare in SC BC, known only from Osoyoos; S to WY, NM and CA.

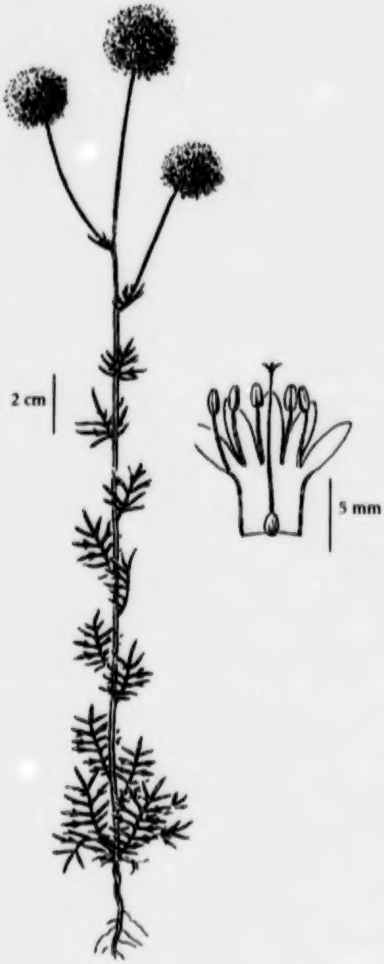
DESCRIPTION:

General: Annual herb from a taproot; stems erect, branched, stalked-glandular at least above, the lower part with a bloom and with loose cobwebby but eventually deciduous hairs, 10-40 cm tall.

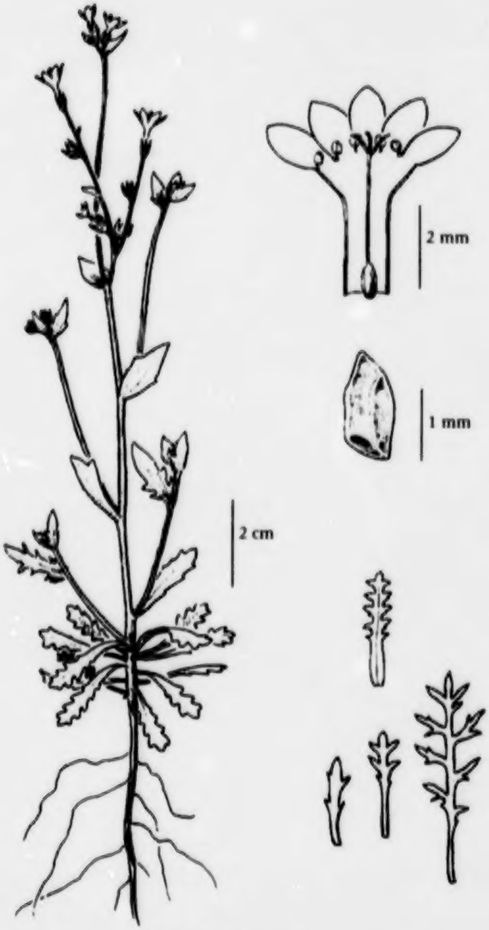
Leaves: Basal leaves in a prostrate rosette, to 7 cm long and 2 cm wide, cobwebby, coarsely toothed or sometimes deeply pinnately lobed, the lobes few-toothed or entire; stem leaves few, progressively reduced upwards, clasping at the expanded base, pinnately toothed to entire, tapering to the tip.

Flowers: Inflorescence an open, glandular, few-bracted, terminal cluster of several, unstalked or short-stalked flowers; corollas blue or purplish, 3-12 mm long, the tube funnel-shaped with yellowish throat and white veins on the outer surface, flaring to 5 elliptic lobes that are 1/4 to 1/2 as long as the tube; calyces 3-5 mm long.

Fruits: Capsules, oblong-egg-shaped, 4-7 mm long, 3-chambered, with 2 to 8 seeds in two rows in each chamber; seeds angular, 1.5-2 mm long, becoming sticky when moistened.



Gilia capitata var. *capitata*



Gilia sinuata

***Gilia tenerrima* A. Gray**

slender gilia; diffuse gilia

HABITAT/RANGE:

Dry open slopes or open forest in the montane zone; rare in SC BC, known only from Kettle Valley; S to NV, UT and WY.

DESCRIPTION:

General: Annual herb from a taproot; stems spreading, threadlike, diffusely branched, covered with stalked, often dark glands, 5-20 cm long/tall.

Leaves: Mostly entire and hairless, 1-2 cm long, the basal leaves few, lanceolate and sometimes forming a small rosette, the stem leaves alternate, linear to linear-oblong, progressively reduced upwards, ultimately to bracts.

Flowers: Inflorescences loose, of 2 or 3 stalked flowers per branch, the stalks curved or bent downwards, gland-dotted; corollas white or pale yellow, sometimes bluish-tipped, bell-shaped, 1.5-3 mm long, the short tube flaring to five lobes from 1/2 to as long as the tube; calyces 1/2 as long as the corollas.

Fruits: Capsules, spherical, with 1-seeded chambers; seeds ellipsoid, becoming sticky when moistened.

IPOMOPSIS

1. Flowers 15-35 mm long, bright red; lower leaves pinnately cleft .... *I. aggregata*
1. Flowers 4-7 mm long, white or pale blue; lower leaves 3-cleft or entire .... *I. minutiflora*

Ipomopsis aggregata* (Pursh) V. Grant var. *aggregata (*Gilia aggregata* [Pursh] Spreng.)

scarlet gilia; skyrocket

HABITAT/RANGE:

Dry to mesic, often gravelly or rocky slopes, grassy bluffs, meadows and forest openings in the steppe and montane zones; locally common in SC BC; S to MT, CA and MX.

DESCRIPTION:

General: Biennial or short-lived perennial herb from a taproot, usually dying after flowering once, reportedly skunky-smelling; stems 1 to several, erect, stalked-glandular upwards or glands replaced by long, spreading, crinkly, white hairs, 20-100 cm tall.

Leaves: Basal leaves in a rosette, 3-8 cm long, pinnately cleft into 9 to 11 narrow segments, withering by flowering time; stem leaves well developed, reduced upwards, 5- to 7- pinnately cleft, hairless to minutely hairy.

Flowers: Inflorescence a loose, elongated, 1-sided, terminal, panicle-like cluster of several short-stalked, bracted flowers; corollas bright red to orange, 15-35 mm long, the slender tube often yellow-mottled in the throat, abruptly spreading to 5 pointy-tipped lobes 6-13 mm long.

Fruits: Capsules, 3-chambered, 4-8 mm long; seeds 1 to several per chamber, 2.5-4 mm long, becoming sticky when moistened.

***Ipomopsis minutiflora* (Benth.) V. Grant** (*Gilia minutiflora* Benth.)

small-flowered ipomopsis

HABITAT/RANGE:

Dry, open, often sandy sites in the steppe and montane zones; rare in SC BC; S to N ID and N OR.

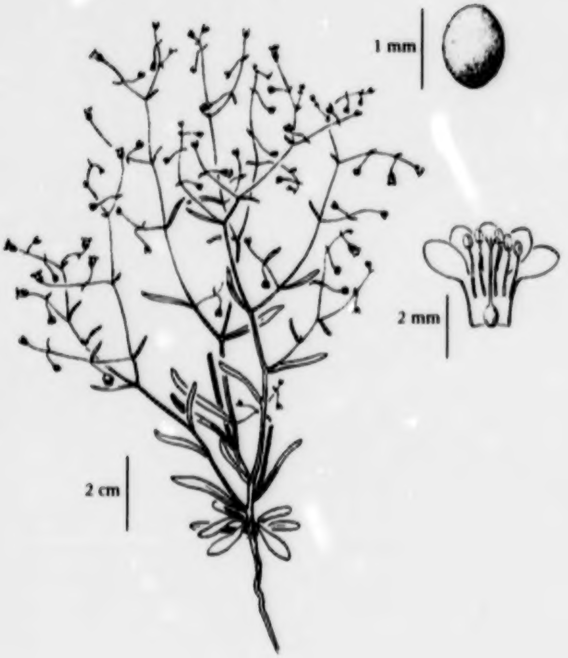
DESCRIPTION:

General: Annual herb from a taproot; stems erect, nearly hairless to fine glandular-hairy, with numerous, ascending, simple branches, 10-60 cm tall.

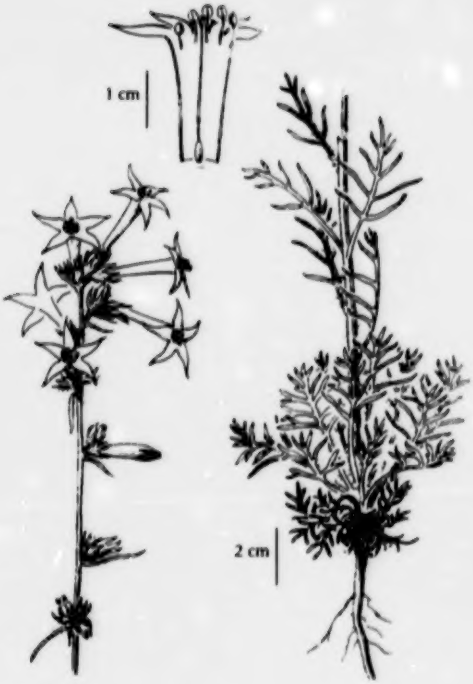
Leaves: All along the stem, alternate, reduced upwards, some lower leaves 3-cleft into narrow segments, the other leaves entire, linear, 2-4 cm long, 1 mm wide.

Flowers: Inflorescence an open, leafy, terminal, panicle-like cluster of several stalked flowers; corollas white to pale-blue, 4-7 mm long, the tube twice as long as the 5 blunt to sharp-pointed lobes; calyces 2.5-4 mm long, the 5 lobes minutely spine-tipped.

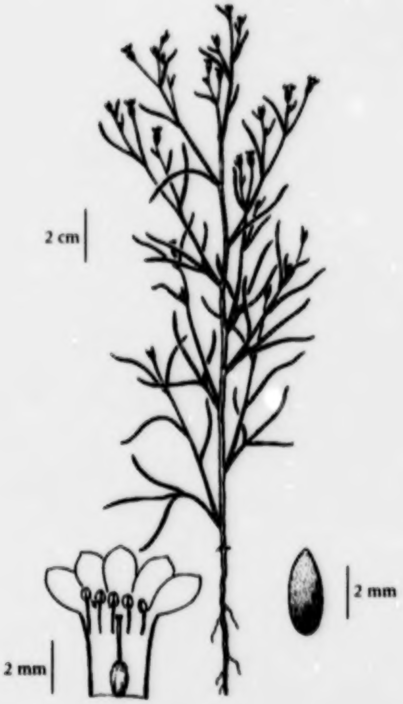
Fruits: Capsules, 3-chambered, 3-4 mm long; seeds 1 per chamber, 2.5-3.5 mm long, dark, becoming sticky when moistened.



Gilia tenerrima



Ipomopsis aggregata var. *aggregata*



Ipomopsis minutiflora

LEPTODACTYLON

Leptodactylon pungens **(Torr.) Nutt.**

prickly phlox

HABITAT/RANGE:

Dry, open, rocky or sandy slopes and shrublands in the steppe zone; locally frequent in extreme SC BC; S to NE, MT, NM and MX.

DESCRIPTION:

General: Shrub from a taproot; stems decumbent to more or less erect, branched, leafy, often sweetly aromatic, minutely hairy or glandular-hairy to hairless, 10-60 cm tall.

Leaves: Alternate or lower leaves opposite, numerous, 5-12 mm long, with bundles of smaller leaves in their axils, deeply palmately cleft into 3 to 7 rigid, linear, spine-tipped segments, the middle segment the longest; dead leaves remain through 1 or more seasons.

Flowers: Inflorescences terminal clusters of unstalked, sweet-scented flowers solitary in leaf axils; corollas dull white to yellowish with lavender shading on the outer surface, 12-25 mm long, the tube funnel-shaped, flaring to 5 egg-shaped lobes 6-11 mm long; calyces 7-10 mm long, the 5 lobes unequal, spine-tipped; flowers opening in the evening, during the day loosely crumpled-closed.

Fruits: Capsules, 3-5 mm long, 3-chambered; seeds several (5 to 10) per chamber.

LINANTHUS

1. Stems sometimes branched at the base, otherwise simple; flowers nearly stalkless; corollas 2-coloured .... *L. bicolor*

1. Stems branched above; flowers stalked; corollas not 2-coloured.

  2. Seeds 1 per chamber; corollas 1.5-2.5 mm long .... *L. harknessii*

  2. Seeds 2 to 8 per chamber; corollas 2.5-6 mm long .... *L. septentrionalis*

Linanthus bicolor **(Nutt.) Greene**

bicoloured linanthus; bicoloured flaxflower

HABITAT/RANGE:

Mesic to dry, open, grassy places in the lowland zone; locally frequent on S Vancouver Island and the Gulf Islands; S to CA.

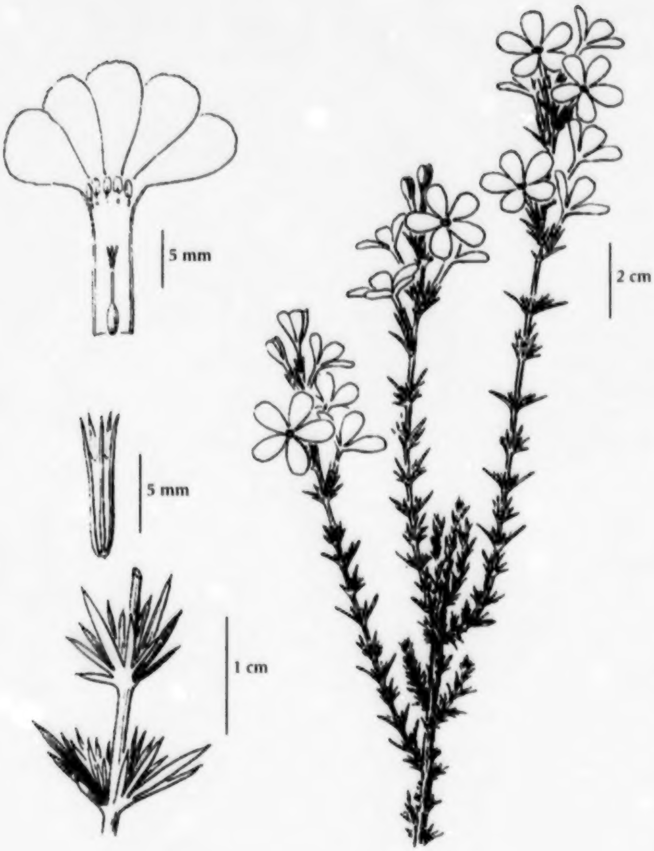
DESCRIPTION:

General: Annual herb from a taproot; stems slender, erect, simple or branched at the base, minutely hairy, 5-15 cm tall.

Leaves: Opposite, unstalked, palmately cleft into 3 to 7 segments, 3-20 mm long, the segments linear to narrowly oblanceolate, fringed with bristly hairs, leaves of the inflorescence longer than those below and more densely fringed.

Flowers: Inflorescence a compact, head-like, terminal cluster of several fragrant, nearly unstalked flowers; generally 1 flower open at a time; corollas pink-purple or white with a yellow eye, 12-30 mm long, the very slender tube abruptly spreading to five rounded or squared-off, 2- to 4-mm long lobes; calyces 5-10 mm long, the 5 teeth needle-like.

Fruits: Capsules, 3-chambered; seeds several per chamber.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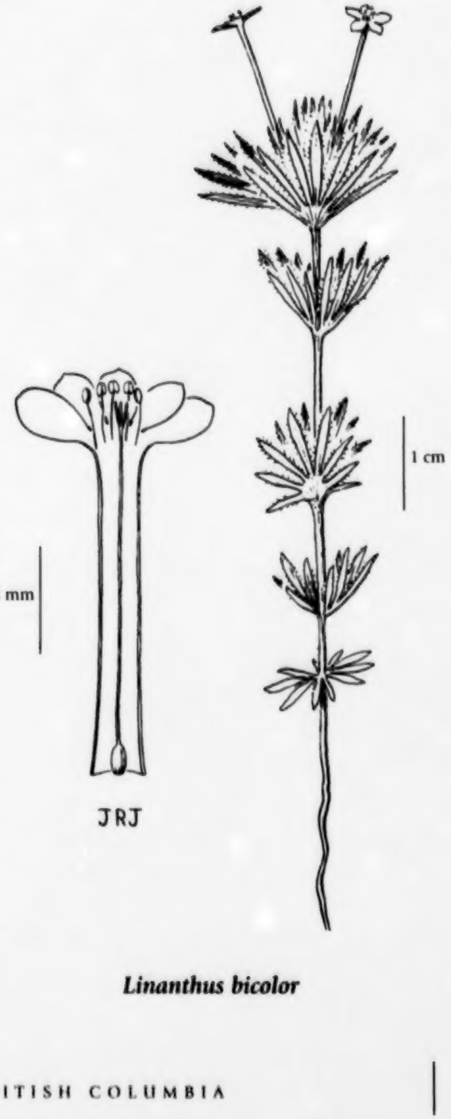
Leptodactylon pungens



Linanthus bicolor

***Linanthus harknessii* (Curran) Greene**

Harkness' linanthus; Harkness' flaxflower

HABITAT/RANGE:

Dry meadows, grasslands and forest openings in the steppe to subalpine zones; rare in SC and SE BC, known recently only from Idaho Peak, Slocan Valley; S to ID, NV and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems slender, often branched, hairless or minutely hairy in part, 5-20 cm tall.

Leaves: Opposite, unstalked, palmately cleft into 3 to 7 soft, thread-like segments 5-15 mm long, or the uppermost leaves entire, the segments fringed with bristly hairs; leaves of the inflorescence longer than those below and more densely fringed.

Flowers: Inflorescence an open, branching, terminal cluster of flowers solitary on long thread-like stalks in the forks and at the ends of the branches; corollas white, not 2-coloured, 1.5-3 mm long, equalling or slightly surpassing the calyx at maturity, the short funnel-shaped tube spreading to five lobes; calyces 1-2.5 mm long, the 5 teeth lance-triangular.

Fruits: Capsules, 3-chambered; seeds 1 per chamber, swelling and becoming sticky when moistened.

***Linanthus septentrionalis* Mason**

northern linanthus; northern flaxflower

HABITAT/RANGE:

Dry slopes, meadows, sagebrush flats and forest openings in the steppe and montane zones; rare in SC and SE BC; E to SK and S to WY, CO and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems often branched, hairless or minutely hairy in part, 5-25 cm tall.

Leaves: Opposite, unstalked, palmately cleft into 3 to 7 segments 5-20 mm long, or the uppermost leaves entire, the segments thread-like, fringed with bristly hairs; leaves of the inflorescence longer than those below and more densely fringed.

Flowers: Inflorescence an open, branching, terminal cluster of flowers solitary on long thread-like stalks in the forks and at the ends of the branches; corollas white, lavender or pale blue, yellow in the throats, 2.5-6 mm long, about 1.5 times as long as the calyx, the short funnel-shaped tube spreading to five lobes and with a ring of short hairs in the throat; calyces 1-3 mm long, the 5 teeth lance-triangular.

Fruits: Capsules, 3-chambered; seeds 2 to 8 per chamber, swelling and becoming sticky when moistened.

NAVARRETIA

1. Stems nearly smooth to minutely hairy; stamens exserted; capsules 2-chambered .... *N. intertexta*
1. Stems glandular-hairy; stamens not exserted; capsules 3-chambered .... *N. squarrosa*

***Navarretia intertexta* (Benth.) Hook.** (*N. minima* Nutt. var. *intertexta* [Benth.] Boivin)

needle-leaved navarretia; pincushion plant

HABITAT/RANGE:

Moist meadows and vernal pools in the lowland and steppe zones; rare on SE Vancouver Island, the lower Fraser Valley and the Thompson Plateau; E to SK and S to CO, AZ and CA.

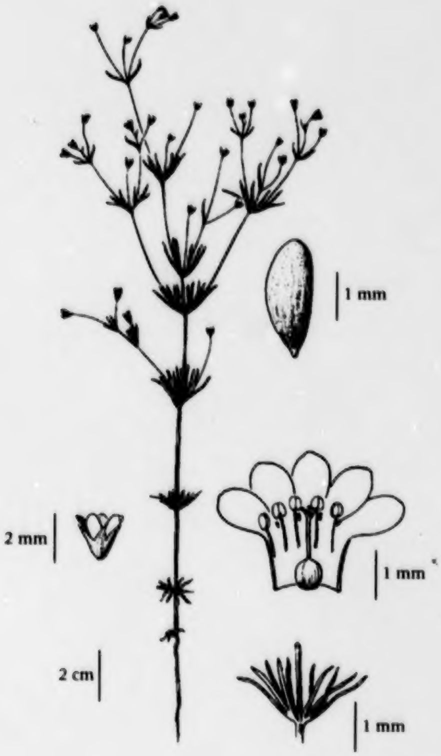
DESCRIPTION:

General: Annual herb from a taproot; stems erect, simple to freely branched, nearly smooth to minutely hairy with longer hairs below the inflorescence, 5-25 cm tall.

Leaves: Alternate, 1-3 cm long, hairless or white-hairy near the base, 1 to 2 times pinnately cleft, the axis narrow and the segments needle-like, the terminal segment elongate.

Flowers: Inflorescences dense, leafy-bracted heads of several to many, unstalked flowers, terminating the stem and branches; corollas white to pale purple or pale blue, 4-11 mm long, the tube spreading to five egg-shaped lobes less than 2 mm long; stamens exserted from the tube; calyces white tufted-hairy at the mouth, 4-7 mm long, the teeth unequal, spine-tipped, the larger teeth sometimes 3-pronged.

Fruits: Capsules, 2-chambered; seeds 3 to 5 per chamber, brown, pitted, becoming sticky when moistened.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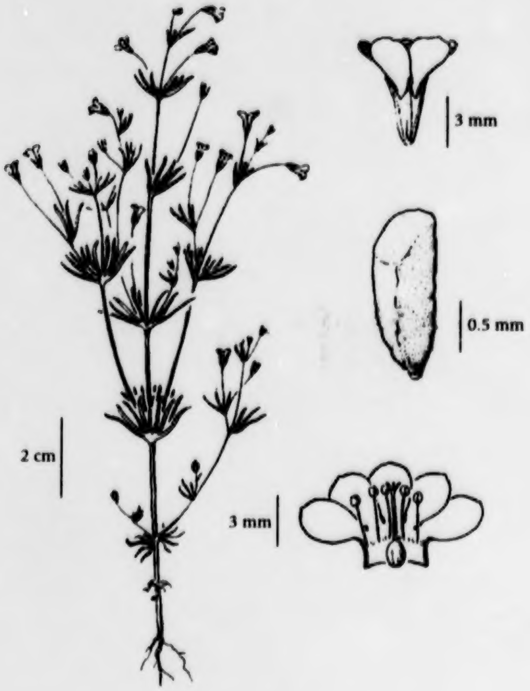
Linanthus harknessii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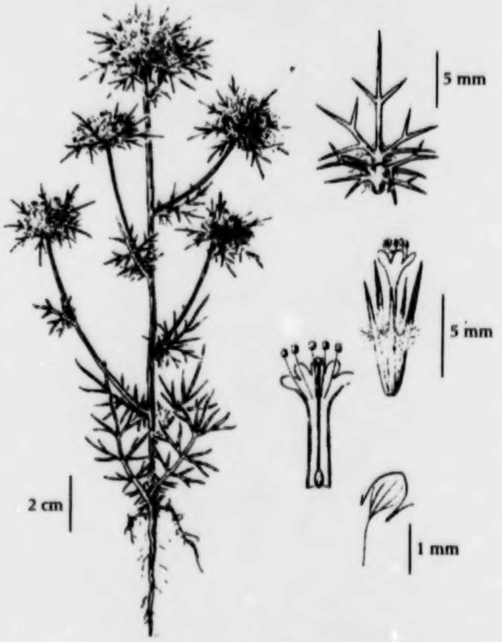
Linanthus septentrionalis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Navarretia intertexta

Navarretia squarrosa **(Esch.) H.& A.**

skunkweed

HABITAT/RANGE:

Mesic meadows and open grassy areas in the lowland zone; locally frequent on SE Vancouver Island and the Gulf Islands, rare around Vancouver, where possibly introduced; S to CA.

DESCRIPTION:

General: Annual skunky-smelling herb from a taproot; stems erect, simple to moderately branched, glandular-hairy, 10-40 cm tall.

Leaves: Alternate, 2-6 cm long, firm, spiny, 1 to 2 times pinnately cleft, the axis and segments linear, the terminal segment not elongate.

Flowers: Inflorescences dense, leafy-bracted heads, to 3 cm thick, of several to many unstalked flowers, terminating the stem and branches; corollas pale to deep blue, 9-12 mm long, the tube spreading to five 2-3 mm long, oblong lobes with 3 veins; stamens included within the corolla tube; calyces 8-14 mm long, sparsely glandular-hairy, the more or less equal teeth lanceolate, pointy-tipped.

Fruits: Capsules, oblong-ellipsoid, 3-chambered; seeds 6 to 9 per chamber, becoming sticky when moistened.

PHLOX

1. Leaves alternate above; plants annuals .... *P. gracilis*
1. Leaves mostly opposite above; plants perennials.
    2. Plants more or less erect, 5-40 cm tall; leaves 1-8 cm long; flowers stalked.
        3. Styles 0.5-2 mm long; calyces glandular .... *P. speciosa*
        3. Styles 6-15 mm long; calyces not glandular .... *P. longifolia*
    2. Plants tufted and mat-forming, if loosely erect (as in *P. caespitosa*) then plants 5-15 cm tall, leaves 0.5-1.3 cm long and flowers unstalked or nearly so.
        4. Leaves and calyces hairy but not long woolly-hairy or cobwebby .... *P. caespitosa*
        4. Leaves and calyces long woolly-hairy or cobwebby.
            5. Leaves soft, green and hairless except for the cobwebby-fringed basal margins, 5-20 mm long and 1-2 mm wide; plants common in SW BC .... *P. diffusa*
            5. Leaves firm, usually cobwebby-woolly along the margins, 3-10 mm long and 0.5-1 mm wide; plants rare in SE BC .... *P. hoodii*

Phlox caespitosa **Nutt.**

tufted phlox

HABITAT/RANGE:

Dry slopes and forest openings in the steppe and montane zones; locally frequent in SE BC; S to N MT, N ID and N OR.

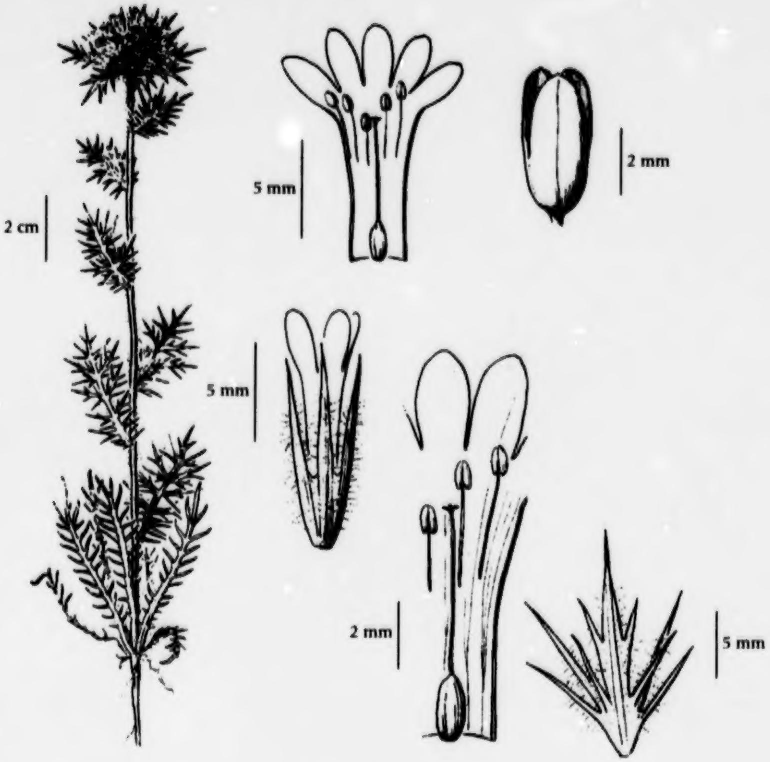
DESCRIPTION:

General: Tufted perennial herb or subshrub from a taproot; stems numerous, slender, ascending or loosely erect, hairy or glandular or glandular-hairy, 5-15 cm tall.

Leaves: Opposite, firm, linear, 5-13 mm long, 0.5 mm wide, rigidly sharp-pointed at the tip, often inconspicuously fringed with short hairs towards the base.

Flowers: Inflorescence usually of single, short-stalked or stalkless flowers at the ends of the branches; corollas white to pink, pale blue or mauve, the tube 8-14 mm long, spreading to five wide lobes 7-10 mm long; calyces usually glandular, the 5 teeth narrow, thickened.

Fruits: Capsules, ellipsoid, 3-chambered, few-seeded.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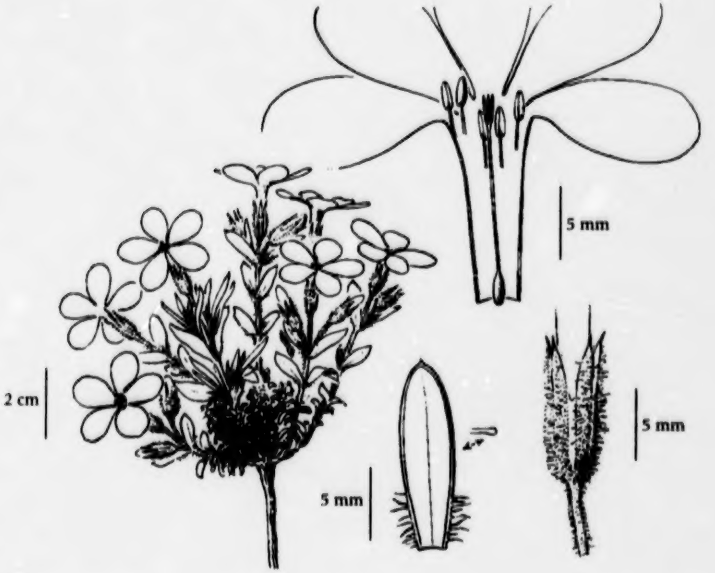
Navarretia squarrosa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Phlox caespitosa

Phlox diffusa **Benth. ssp.** ***longistylis*** **Wherry**

spreading phlox

HABITAT/RANGE:

Mesic to dry rocky slopes, rock outcrops and open forests from the lowland to alpine zones; common in SW BC; S to N OR.

DESCRIPTION:

General: Tufted perennial herb from a taproot; stems often mat-forming, 5-10 cm tall.

Leaves: Opposite, linear, fused at the base in pairs, hairless except for the cobwebby-fringed margins towards the base, 5-20 mm long, 1-2 mm wide.

Flowers: Inflorescence of single stalkless flowers at the ends of the stems; corollas pink to lavender or whitish, the tube 9-17 mm long, spreading flat into five wide lobes 5-9 mm long; calyces long woolly-hairy or cobwebby-hairy, the 5 teeth narrow, thickened.

Fruits: Capsules, ellipsoid, 3-chambered; seeds usually 1 per chamber.

Phlox gracilis **(Hook.) Greene** (*Microsteris gracilis* [Hook.] Greene; *M. gracilis* var. *humilior* [Hook.] Cronq. = ssp. *humilis*)

pink twink; pink microsteris

HABITAT/RANGE:

Moist to dry grasslands, meadows, rocky slopes, floodplain terraces, streamsides, gravelly roadsides and forest openings in the lowland, steppe and lower montane zones; common in S BC, infrequent northward; ssp. *gracilis* – mostly west of the Coast-Cascade Mountains, N to Vancouver Island, introduced in SE AK, S to CA, OR and MT; ssp. *humilis* – mostly east of Coast-Cascade Mountains, N to S YT (where probably introduced), S to MT, NM, CA and MX, S America.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, sometimes decumbent, simple or branched, minutely hairy or glandular-hairy at least above, 5-30 cm tall.

Leaves: Upper leaves alternate, entire, linear to lance-elliptic; lower leaves opposite, more egg-shaped; 1-5 cm long, unstalked, at least the upper leaves hairy to glandular.

Flowers: Inflorescence of pairs of flowers (one stalked the other not) at the ends of the stem and branches, or single in the axils of leaf-like bracts; corollas pinkish-white, 5-15 mm long, the tube white or yellowish, spreading to five pink to pale purple, squared-off or notched, 1-2 mm long lobes; calyces 5-10 mm long, glandular-hairy, with 5 green ribs separated by membranous tissue that is ruptured by the ripening capsule, the slender teeth about as long as the tube.

Fruits: Capsules, spheric to egg-shaped, 3-chambered; seeds 1 per chamber.

Notes: Two subspecies occur in BC:

1. Primary stem (up to the first flower) 5-25 cm high; plants branched usually only above the middle, taller than wide; corollas 8-15 mm long, the lobes 1.5-4 mm long .... ssp. *gracilis*

1. Primary stem 1-5 (8) cm high; plants much branched at maturity, commonly wider than tall; corollas 5-10 mm long, the lobes 1-2.5 mm long .... ssp. *humilis* (Greene) Mason

Phlox hoodii **Richards.** (*P. hoodii* ssp. *canescens* [T.& G.] Wherry)

Hood's phlox

HABITAT/RANGE:

Dry, open, grassy sites in the steppe to subalpine zones; rare in SC and SE BC; N to AK, E to MB and S to CO, UT, NV and CA.

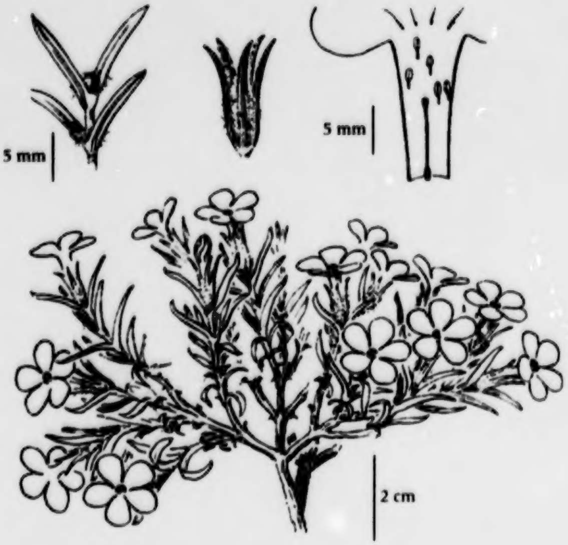
DESCRIPTION:

General: Densely tufted perennial herb from a somewhat woody taproot; stems decumbent to ascending, crowded, forming a mat or cushion.

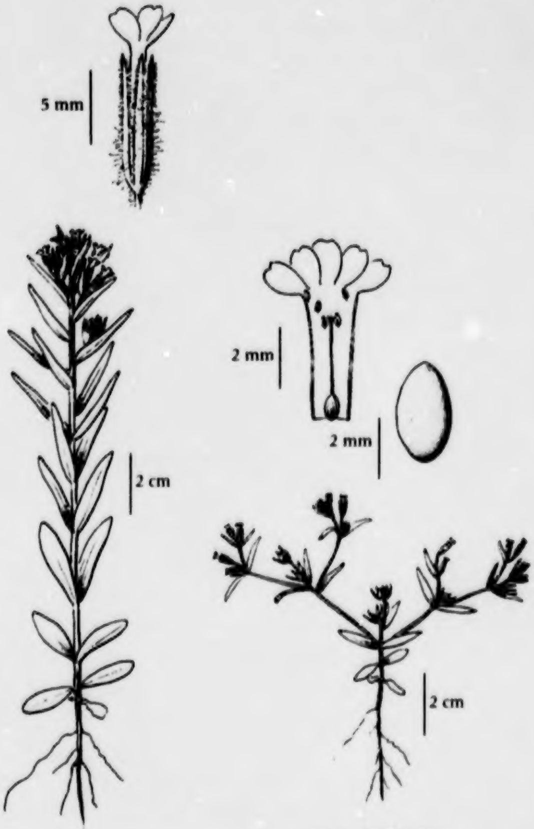
Leaves: Opposite, often overlapping like shingles, firm, linear to awl-shaped, 3-5 (10) mm long, 0.4-1 mm wide, rigidly sharp-pointed at the tip, cobwebby-woolly on the margins.

Flowers: Inflorescence of single, nearly stalkless flowers at the ends of the stems; corollas bluish or white to pink, the tube 4-10 mm long, spreading to five wide lobes 4-7 mm long; calyces 3-6 mm long, the 5 teeth awl-shaped, cobwebby-woolly, the midrib thickened.

Fruits: Capsules, ellipsoid, 3-chambered, few-seeded.



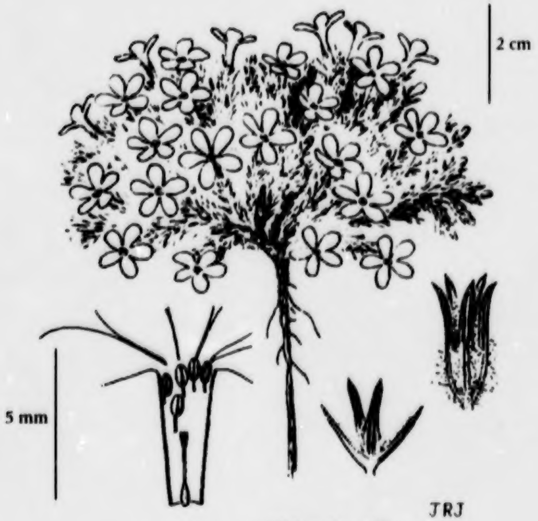
Phlox diffusa* ssp. *longistylis


5 mm
2 cm
2 mm
2 mm
2 cm

ssp. *gracilis*

ssp. *humilior*

Phlox gracilis



Phlox hoodii

Phlox longifolia **Nutt.**

long-leaved phlox

HABITAT/RANGE:

Dry, open, rocky sites and sagebrush slopes in the steppe and montane zones; locally frequent in SC BC; S to CO, WY, NM and CA.

DESCRIPTION:

General: Perennial herb from a taproot or branching, underground stem-base; stems somewhat woody at the base, hairless to hairy or glandular (especially in the inflorescence), 10-40 cm tall.

Leaves: Opposite, linear, 1.5-8 cm long, 1-2.5 mm wide, internodes well-developed.

Flowers: Inflorescences loose, leafy-bracted, terminal clusters of slender-stalked, sweet-smelling flowers; corollas pink to white, the tube 10-18 mm long, spreading to five wide lobes 7-15 mm long; calyces not glandular, the transparent segments between the green ribs bulging-keeled toward the base; styles 6-15 mm long.

Fruits: Capsules, 3-chambered, few-seeded.

Phlox speciosa **Pursh ssp. *occidentalis* (Dur. *ex* Torr.) Wherry**

showy phlox

HABITAT/RANGE:

Dry grasslands, shrublands and open forests in the steppe and lower montane zones; rare in SC BC, known recently only from Yellow Lake and Twin Lakes; S to ID, MT and N CA.

DESCRIPTION:

General: Perennial herb from a woody taproot, becoming shrubby towards the base; stems erect, glandular or glandular-hairy above, hairy below, 15-40 cm tall.

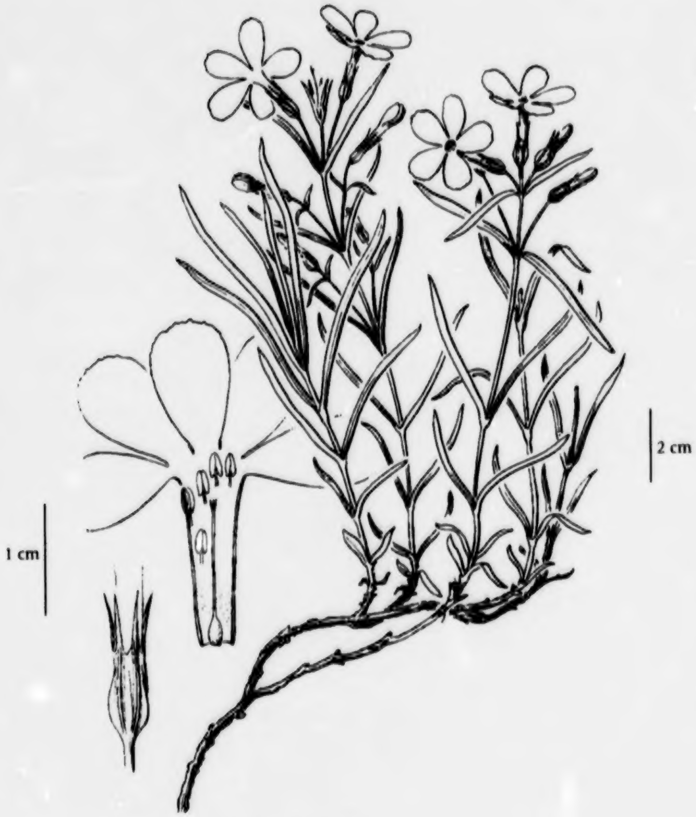
Leaves: Opposite, linear to lanceolate, to 7 cm long and 1 cm wide, the internodes well developed.

Flowers: Inflorescence of loose, leafy-bracted, terminal clusters of stalked flowers; corollas pink to white, the tube 1-1.5 cm long, spreading to five wide lobes 1-1.5 cm long and notched at the tip; calyces glandular, the transparent segments between the 5 green ribs flat; styles 0.5-2 mm long.

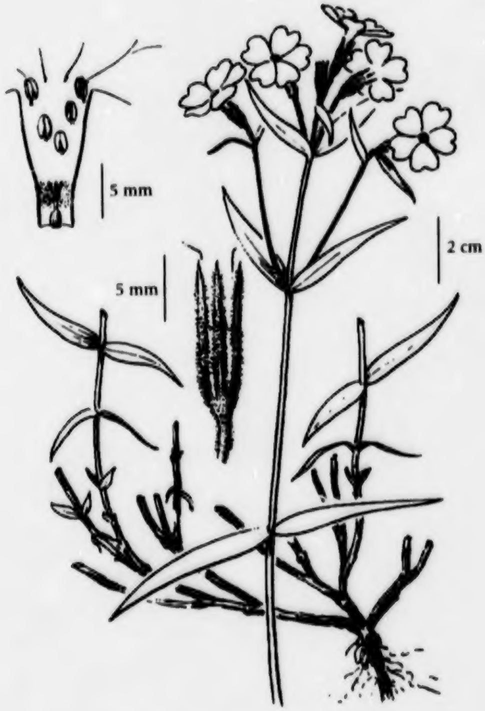
Fruits: Capsules, 3-chambered, few-seeded.

POLEMONIUM

1. Leaflets numerous, 2- to 5-cleft, appearing whorled .... *P. viscosum*
1. Leaflets undivided, appearing as pairs.
    2. Corollas shorter than or equal to the calyces; flowers each opposed by a leaf; plants annuals .... *P. micranthum*
    2. Corollas much longer than calyces; flowers not opposed by a leaf; plants perennials.
        3. Plants 5-15 cm tall, stalked-glandular or minutely soft glandular-hairy throughout .... *P. elegans*
        3. Plants 10-100 cm tall, if glandular then only so in the inflorescence.
            4. Stems several from a much-branched stem-base .... *P. pulcherrimum*
            4. Stems solitary from a short, unbranched, horizontal rhizome.
                5. Stems 8-30 cm tall; leaflets distinctly hairy (at least when young); corolla lobes rounded at the tip .... *P. boreale*
                5. Stems 15-100 cm tall; leaflets mostly smooth; corolla lobes tapering to the tip.
                    6. Stamens slightly exserted beyond the corollas, not markedly surpassed by the styles .... *P. acutiflorum*
                    6. Stamens included in the corollas, markedly surpassed by the styles .... *P. occidentale*



Phlox longifolia



Phlox speciosa* ssp. *occidentalis

Polemonium acutiflorum **Willd. *ex* Roem. & Schult.** (*P. caeruleum* L. ssp. *villosum* [Rudolph *ex* Georgi] Brand)
tall Jacob's-ladder

HABITAT/RANGE:

Wet to moist swamps, streambanks, meadows and thickets in the steppe to subalpine zones; common in N BC, less frequent southward to 52°N; amphiberingian, N to AK, YT and NT; Eurasia.

DESCRIPTION:

General: Perennial herb from a rhizome; stems single, erect from a decumbent base, glandular-hairy especially above, 15-40 cm tall.

Leaves: Alternate, mostly basal, pinnately compound, reduced upwards; leaflets 15 to 27, lanceolate to elliptic, pointed at the tip, 3-7 mm long, hairless or nearly so.

Flowers: Inflorescences terminal or axillary, head-like or somewhat elongate, crowded clusters of short-stalked flowers; corollas blue or purple, rarely white, bell-shaped, 15-20 mm long, the 5 lobes twice as long as the tube; calyces 6-8 mm long, green to purple, the 5 teeth lanceolate; stamens slightly exserted beyond the corollas, not markedly surpassed by the styles.

Fruits: Capsules, 3-chambered.

Polemonium boreale **Adams**
northern Jacob's-ladder

HABITAT/RANGE:

Mesic to dry meadows, tundra, scree slopes and rock outcrops in the montane to alpine zones; rare in and E of the Coast-Cascade Mountains in BC, north of 52°N; circumpolar, N to AK, YT and NT; E Greenland, Scandinavia, N Asia.

DESCRIPTION:

General: Perennial herb from a rhizome and branching stem-base; stems single or several, loosely tufted, erect or ascending, spreading-hairy to glandular-hairy, 8-30 cm tall.

Leaves: Alternate, mostly basal, pinnately compound; leaflets 13 to 23, elliptic to oval, 4-12 mm long, 1-5 mm wide, distinctly hairy (at least when young).

Flowers: Inflorescences terminal or axillary head-like clusters of short-stalked flowers; corollas blue, rarely white, broadly bell-shaped, 15-20 mm long, the 5 lobes slightly longer than the yellowish tube and rounded at the tip; calyces 5-10 mm long, the 5 teeth lanceolate to oblong, usually pointed.

Fruits: Capsules, 3-chambered.

Polemonium elegans **Greene**
elegant Jacob's-ladder; elegant polemonium

HABITAT/RANGE:

Dry cliffs and scree slopes in the subalpine and alpine zones; rare in S BC south of 56°N, mostly in the Coast-Cascade Mountains; S to N CA.

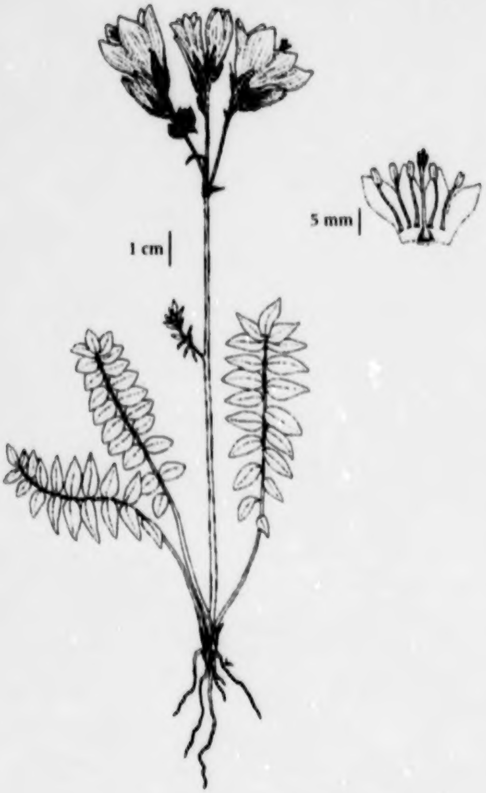
DESCRIPTION:

General: Short perennial herb from a stout taproot and branched stem-base, glandular-hairy or stalked-glandular throughout, strongly skunky-smelling, 5-15 cm tall.

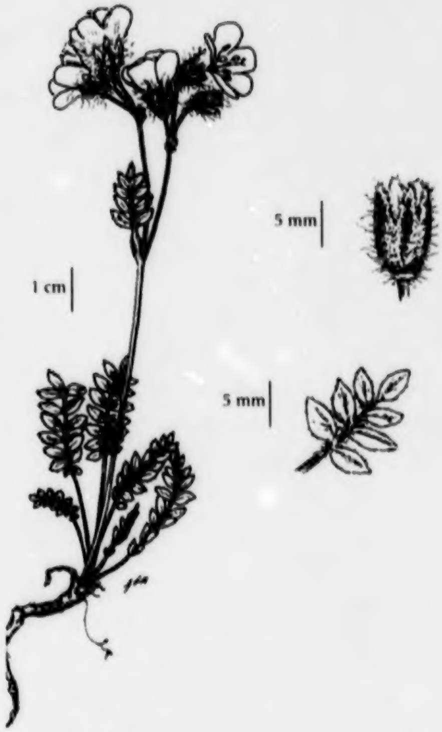
Leaves: Alternate, mostly basal, short-stalked with expanded, persistent, papery bases, pinnately compound; leaflets 13 to 27, opposite or offset, crowded, 2.5-6 mm long, 1-3.5 mm wide, entire.

Flowers: Inflorescence a dense, terminal head-like cluster of short-stalked flowers; calyces 5.5-8.5 mm long with 5 pointed lobes; corollas blue, rarely white, funnel-shaped, 12-15 mm long, the 5 flaring lobes shorter than the tube; stamens exserted.

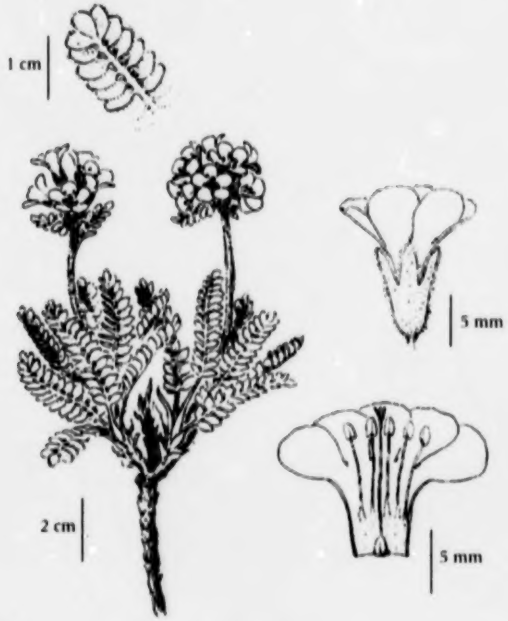
Fruits: Capsules, 3-chambered.



Polemonium acutiflorum



Polemonium boreale


1 cm
5 mm
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Polemonium elegans

Polemonium micranthum **Benth.** (*Polemoniella micranthum* [Benth.] Heller)
littlebells polemonium; annual Jacob's-ladder
HABITAT/RANGE:

Vernally moist to dry disturbed areas in the steppe and lower montane zones; locally frequent in SC BC; S to MT, UT and CA; Argentina, Chile.

DESCRIPTION:

General: Slender annual herb from a taproot; stems simple and erect to freely branched and spreading, soft-glandular-hairy or partly hairless, 5-30 cm tall.

Leaves: Alternate, pinnately compound; leaflets 7 to 15, opposite or offset, egg-shaped to elliptic, 2-9 mm long, 1-4 mm wide.

Flowers: Inflorescence open, of solitary terminal flowers that are soon opposed by a leaf, flower-stalks short at first but elongating to 1-2 cm; corollas white, saucer-shaped, 2-5 mm long, the 5 lobes about equal to the tube; calyces 3-7 mm long, hairy, the 5 pointed lobes slightly longer than the tube.

Fruits: Capsules, 3-chambered.

Polemonium occidentale **Greene** (*P. caeruleum* L. ssp. *occidentale* [Greene] Davids.; *P. caeruleum* ssp. *amygdalinum* [Wherry] Munz)
western Jacob's-ladder
HABITAT/RANGE:

Wet to moist swamps, streambanks, meadows and thickets in the steppe to subalpine zones; rare, scattered throughout BC in and east of the Coast-Cascade Mountains; E to AB and S to MN, CO and CA.

DESCRIPTION:

General: Perennial herb from a rhizome; stems single, erect from a decumbent base, glandular-hairy especially above, 20-100 cm tall.

Leaves: Alternate, mostly basal, pinnately compound, reduced upwards; leaflets 11 to 27, lanceolate to elliptic, pointed at the tip, 10-35 mm long, 3-10 mm wide, hairless or nearly so.

Flowers: Inflorescences terminal or axillary, head-like or somewhat elongate, crowded clusters of short-stalked flowers; corollas blue or purple, rarely white, bell-shaped, 10-16 mm long, the 5 lobes twice as long as the tube; calyces 5-8 mm long, green to purple, the 5 teeth lanceolate; stamens included in the corollas, markedly surpassed by the styles.

Fruits: Capsules, 3-chambered.

Polemonium pulcherrimum **Hook. var.** ***pulcherrimum***
showy Jacob's-ladder
HABITAT/RANGE:

Dry to mesic, rocky slopes and ridges, gravelly or sandy terraces, meadows, roadsides and open forests in the montane to alpine zones; common in BC in and east of the Coast-Cascade Mountains, also known from a single location in the Queen Charlotte Islands; N to AK, YT and NT, E to SW AB and S to CO and CA.

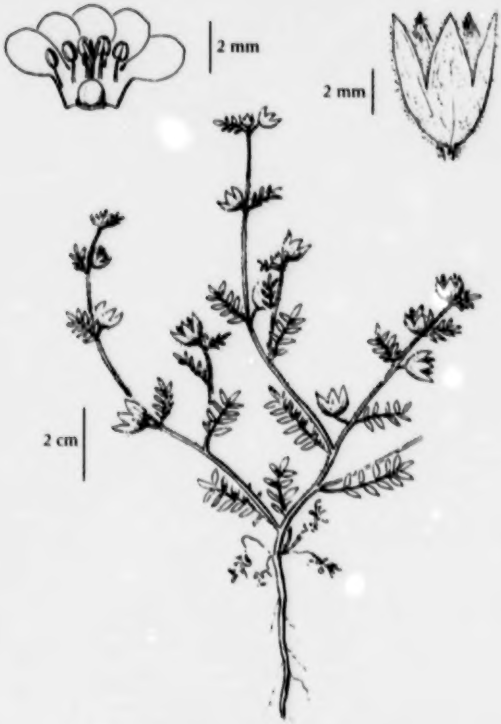
DESCRIPTION:

General: Perennial herb from a branched stem-base atop a taproot; stems loosely erect to sprawling, clustered, spreading glandular-hairy especially in the inflorescence, sometimes nearly smooth elsewhere, foul-smelling if rubbed, 5-35 cm tall.

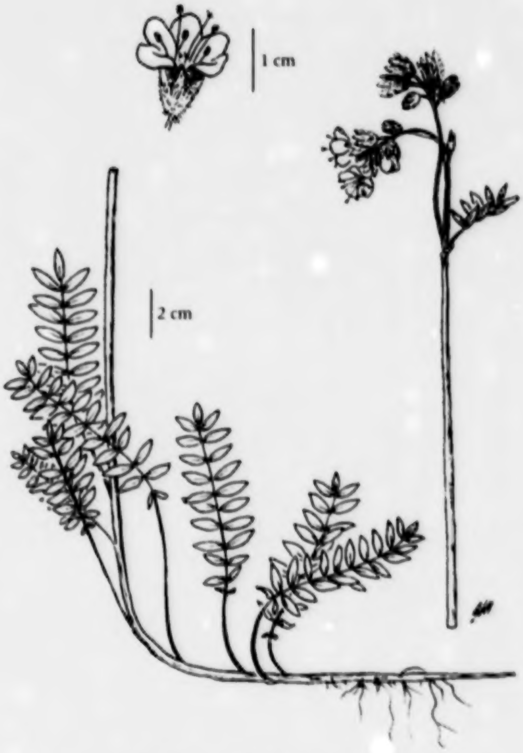
Leaves: Basal leaves tufted and well-developed, pinnately compound with 11 to 25 egg-shaped to circular, opposite or offset leaflets, glandular-hairy when young; stem leaves few, reduced.

Flowers: Inflorescences crowded, terminal head-like clusters of long-stalked flowers; corollas blue, rarely white, with yellow centres, bell-shaped, 7-13 mm long, the 5 rounded lobes equalling to nearly twice as long as the tube; calyces 4-7 mm long, the 5 lobes lance-oblong.

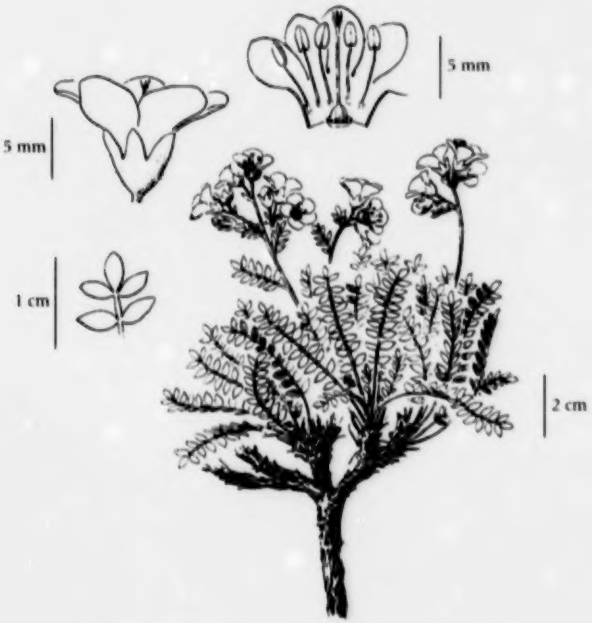
Fruits: Capsules, 3-chambered.



Polemonium micranthum



Polemonium occidentale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Polemonium pulcherrimum* var. *pulcherrimum

***Polemonium viscosum* Nutt.** (*P. confertum* A. Gray)

sky pilot; skunk Jacob's-ladder; sticky Jacob's-ladder; skunk polemonium; sticky polemonium

HABITAT/RANGE:

Dry rocky ridges and slopes in the upper subalpine and alpine zones; infrequent in the Coast-Cascade Mountains S of 51°N, rare in extreme SE BC; E to SW AB and S to NM, NV and NE OR.

DESCRIPTION:

General: Low, often dwarfed, perennial herb from a branched stem-base and stout taproot; plant densely glandular-hairy or stalked-glandular, strongly skunky-smelling; stems several, erect, 10-30 cm tall.

Leaves: Mostly basal, up to 15 cm long including the short stalks, with expanded persistent papery bases; leaflets numerous, crowded, cleft almost to the base into 2 to 5 elliptic to spoon-shaped lobes and so appearing whorled, each segment 1.5-6 mm long, 1-3 mm wide.

Flowers: Inflorescences dense head-like clusters of short-stalked, sweet-scented flowers; corollas blue-purple, funnel-shaped, 17-25 (30) mm long, the 5 rounded lobes shorter than the tube; calyces 7-12 mm long, with 5 lanceolate lobes; stamens shorter than to sometimes equal to the corolla.

Fruits: Capsules, 3-chambered.

POLYGALACEAE

POLYGALA

***Polygala senega* L.**

Seneca-snakeroot

HABITAT/RANGE:

Moist to mesic grassy slopes in the montane zone; rare in NE BC, known only from Pouce Coupé; E to NB and S to AR, TN, GA and SD.

DESCRIPTION:

General: Perennial herb from a thick stembase and stout taproot; stems ascending to erect, several, usually simple, minutely hairy, 10-50 cm tall.

Leaves: Basal leaves lacking; stem leaves lanceolate to egg-shaped, alternate, lowest ones reduced to scales, 1-3 cm long, margins chaffy and toothed.

Flowers: Inflorescence of dense, terminal, oblong racemes; corollas greenish-white, 4-5 mm wide; sepals winged, the wings roundish egg-shaped, wider than long.

Fruits: Capsules, round, 2.5-3.5 mm long; seeds 2.5 mm long, hairy.

POLYGONACEAE[8]

1. Leaves without sheathing stipules; stamens 9 .... *Eriogonum*

1. Leaves with sheathing stipules; stamens 3-6 or 8.

  2. Stem leaves 1 or lacking; leaves round to kidney-shaped; sepals 4 .... *Oxyria*

  2. Stem leaves alternate; leaves not round to kidney-shaped; sepals 3, 5 or 6.

    3. Sepals 3; stamens 3, rarely 4 .... *Koenigia*

    3. Sepals 5 or 6; stamens 6 or 8.

      4. Sepals 6; stamens 6 .... *Rumex*

      4. Sepals 5; stamens 8.

        5. Leaf blades triangular heart-shaped; fruits at least twice as long as the perianths, much exserted .... *Fagopyrum*

        5. Leaf blades various, not triangular heart-shaped; fruits included in the perianths or protruding for less than half its length, not or little exserted .... *Polygonum*

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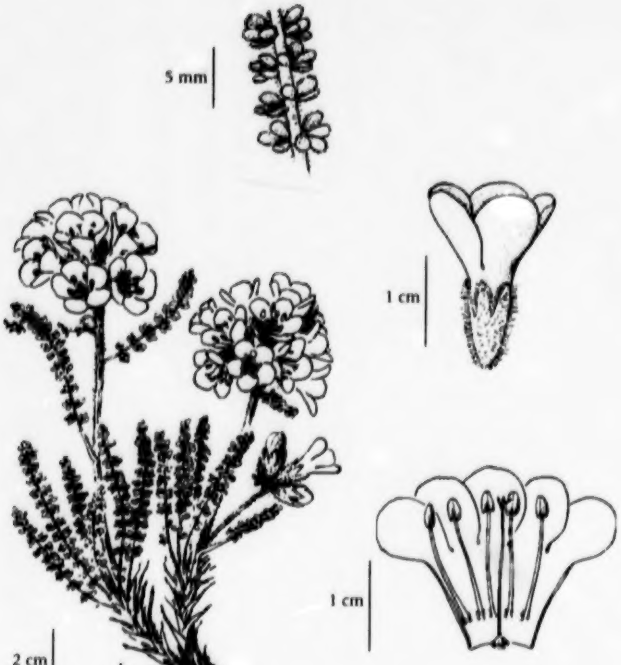
[8] Contributed by G.W. Douglas and A. MacKinnon.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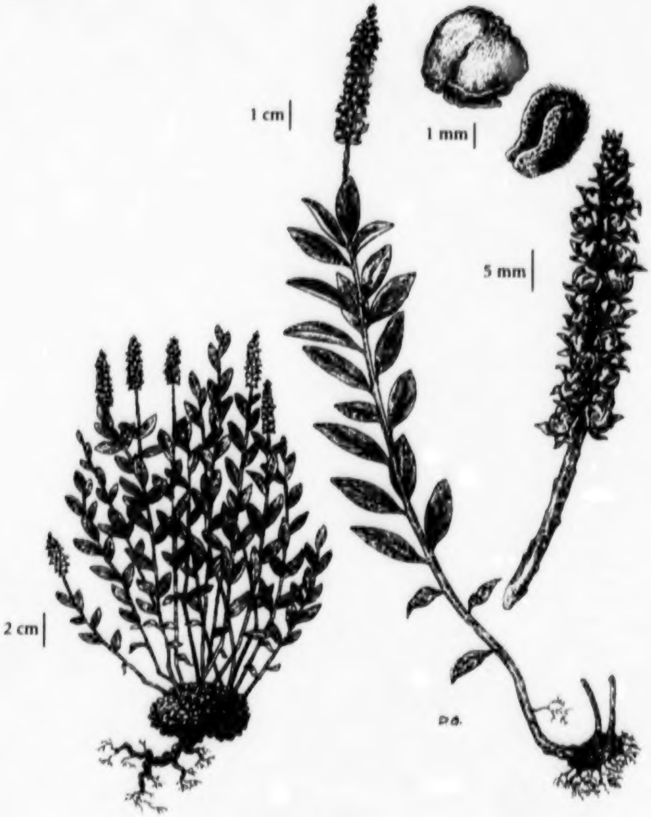
Polemonium viscosum


1 cm
1 mm
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Polygala senega

ERIOGONUM[9]

1. Perianth abruptly stalked at the tapered base; bracts leafy.
    2. Involucral lobes at least half as long as the tubes and generally bent back or spreading.
        3. Flowering stems with a whorl of bracts near midlength; leaves linear to linear-lanceolate .... *E. heracleoides*
        3. Flowering stems bractless or if bracts present then not whorled; leaves usually elliptic .... *E. umbellatum*
    2. Involucral lobes usually less than half as long as the tubes and erect.
        4. Inflorescence subtended by 2 bracts .... *E. pyrolifolium*
        4. Inflorescence subtended by 4-6 bracts.
            5. Leaves 1-2 cm long; perianths woolly-hairy below .... *E. androsaceum*
            5. Leaves 3-7 (9) cm long; perianths soft hairy throughout .... *E. flavum*
1. Perianth not stalked or tapered at the base; bracts usually scalelike.
    6. Outer perianth segments more or less similar to the inner ones.
        7. Flowering stems leafy below; leaves usually 2 cm long or more .... *E. pauciflorum*
        7. Flowering stems leafless above the base; leaves rarely as much as 2 cm long .... *E. androsaceum*
    6. Outer perianth segments up to twice as wide as the inner ones.
        8. Inflorescences headlike .... *E. ovalifolium*
        8. Inflorescences branched, not headlike.
            9. Inflorescence with leaf-like bracts at the lower forks; perianth cream or pink, rarely yellow; involucres 3- (4)-toothed .... *E. niveum*
            9. Inflorescences without leaf-like bracts; perianth yellow; involucres 5-toothed .... *E. strictum*

***Eriogonum androsaceum* Benth.**
androsace buckwheat

HABITAT/RANGE:

Dry rocky slopes and forest openings in the subalpine and alpine zones; rare in SE BC; E to SW AB and S to N MT.

DESCRIPTION:

General: Perennial herb from a stout taproot, forming thick mats 10-30 cm wide; stems prostrate to ascending, simple, several, 3-7 cm tall/long.

Leaves: Basal leaves oblanceolate to spoon-shaped, grey-hairy, sometimes smooth above, crowded, the blades 1-2 cm long, margins rolled under, the stalks sometimes as long as the blade; stem leaves lacking.

Flowers: Inflorescence a small umbel, subtended by a whorl of 4-6 linear bracts; flower stalks naked; involucres narrowly bell-shaped, hairy, 3-4 mm long; perianths light yellow and usually pinkish to rose-tinged, woolly-hairy below, 3.5-5 mm long, 6-lobed almost the full length; flowers mostly functionally imperfect.

Fruits: Achenes, 3-angled, smooth.

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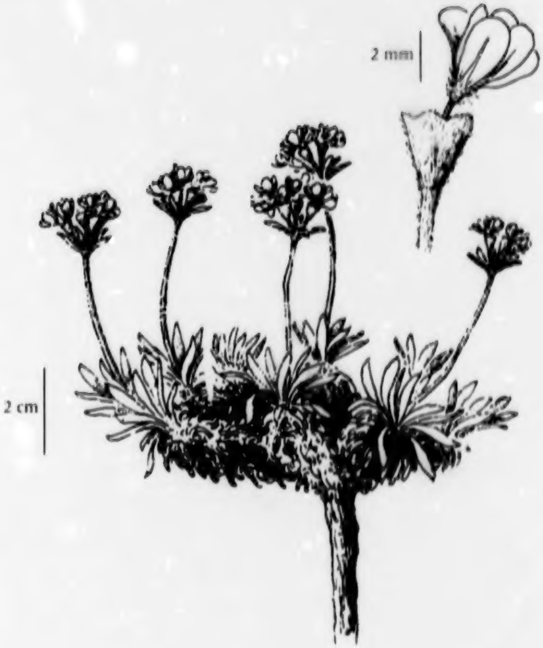
[9] Key adapted from Reveal (1973).



Eriogonum androsaceum

Eriogonum flavum **Nutt. var. *piperi* (Greene) M. E. Jones**
yellow buckwheat
HABITAT/RANGE:

Dry grasslands, shrublands, rock outcrops and scree slopes from the steppe to alpine zones; locally infrequent in SE BC; E to AB and S to ID, MT and OR; disjunct in S YT.

DESCRIPTION:

General: Perennial herb from a stout, woody taproot and short, thick, usually partially subterranean stem-base, forming thick mats up to 30 cm wide; stems prostrate to ascending, simple, several, 5-20 cm tall/long, white-woolly.

Leaves: Basal leaves linear to oblanceolate, usually white- or greyish-hairy beneath, grey to greenish above, the blades 3-7 cm long, the stalks up to 2 cm long; stem leaves lacking.

Flowers: Inflorescence a simple umbel, subtended by 4-6 usually leaflike, sometimes reduced, bracts; flower stalks naked; involucres narrowly bell-shaped, hairy, 3-8 mm long, squared off at the tip or with 4-5 shallow, erect to slightly spreading lobes; perianths yellowish or rose-tinged with long, stalk-like bases, soft-hairy throughout, 3-6 mm long, deeply 6-lobed.

Fruits: Achenes, 3-angled, slightly hairy above the middle, about 4 mm long.

Eriogonum heracleoides **Nutt. var. *angustifolium* (Nutt.) T.& G.**
parsnip-flowered buckwheat
HABITAT/RANGE:

Dry grasslands, shrublands, rock outcrops and forest openings in the steppe to lower subalpine zones; common in SC BC, rare in SE BC; S to WY, UT, NV and NE CA.

DESCRIPTION:

General: Perennial herb or semi-shrub from a freely branched base, forming clumps or loose mats up to 60 cm wide; stems ascending to erect, simple, several, 10-40 cm tall/long, white woolly.

Leaves: Basal leaves linear to linear-lanceolate, grey-hairy on both surfaces, the upper surface less hairy, the blades 3-10 cm long, narrowed gradually to the stalk; stem leaves lacking.

Flowers: Inflorescence a compound umbel, subtended by a whorl of leaflike bracts; flower stalks usually with whorl of leaflike bracts at about midlength; involucres bell-shaped, woolly, 5- to 12-lobed, the lobes 2-3 mm long, at least half as long as tubes, reflexed or spreading; perianths white to cream or creamy yellow, occasionally rose-tinged, 3-4 mm long, 6-lobed, smooth.

Fruits: Achenes, hairy above the middle.

Eriogonum niveum **Dougl. *ex* Benth.**
snow buckwheat
HABITAT/RANGE:

Dry grasslands, shrublands, rocky slopes and forest openings in the steppe and lower montane zones; locally frequent in SC BC; S to ID and OR.

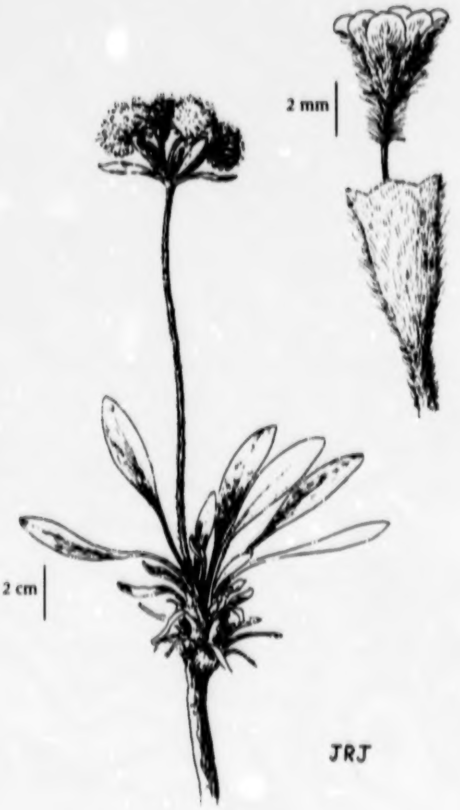
DESCRIPTION:

General: Perennial herb from a thick woody taproot and freely branched crown, sometimes mat-forming; stems ascending to erect, branched, several, 5-20 cm tall/long, greyish-woolly.

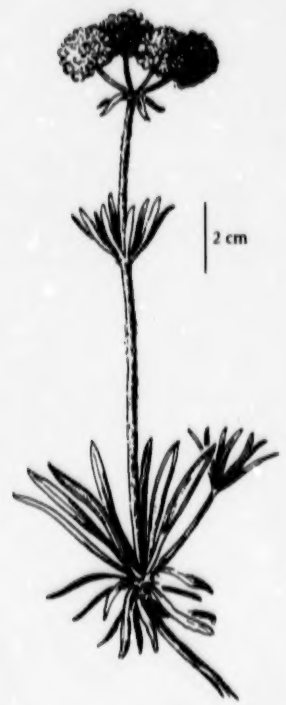
Leaves: Basal leaves egg-shaped to widely lanceolate, grey-hairy, the blades 1.5-6 cm long, the stalks as long as, or longer than, the blades; stem leaves lacking.

Flowers: Flowers in large, freely-branched clusters; flower stalks with leaflike bracts at the branch bases; involucres conic, densely hairy, 3-4 mm long with 3 (4) short, erect teeth; perianths cream or pink (rarely yellow), 3-4 mm long (to 6 mm long in fruit).

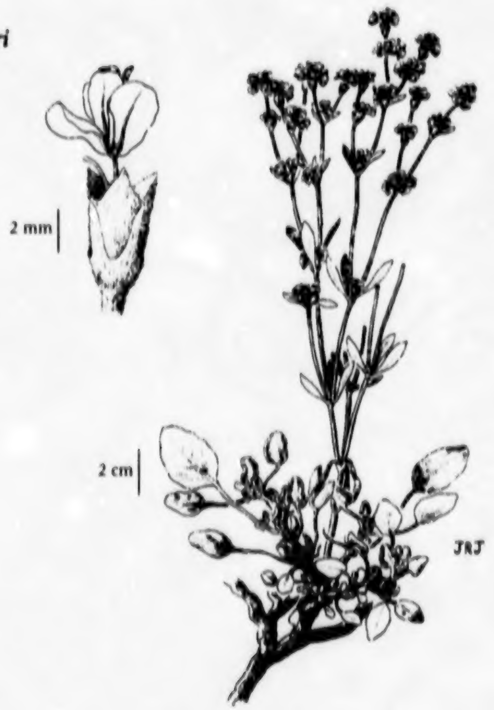
Fruits: Achenes.



Eriogonum flavum var. *piperi*



Eriogonum heracleoides var. *angustifolium*



Eriogonum niveum

Eriogonum ovalifolium **Nutt. var. *nivale* (Canby) M.E. Jones**
cushion buckwheat

HABITAT/RANGE:

Dry meadows and rocky slopes from the montane to the alpine zones; locally frequent in SC and SE BC; E to AB and S to NM and CA.

DESCRIPTION:

General: Perennial herb from a short, branched stem-base, forming mats up to 40 cm wide; stems erect, simple, several, 1-10 cm tall, white-woolly.

Leaves: Basal leaves roundish, densely white-hairy to silvery on both surfaces, 5-15 mm long, including the stalks; stem leaves lacking.

Flowers: Inflorescence a head-like cluster of involucres, 1-3.5 cm wide, subtended by 3 or more linear-lanceolate bracts; involucres bell-shaped, 2.5-5 mm long with 5 short teeth; perianths cream or creamy yellow, often pinkish- or purplish-tinged (at least with age) to yellow, (2.5) 3-4 (5) mm long, the outer segments wider than the inner ones; flowers commonly imperfect.

Fruits: Achenes.

Eriogonum pauciflorum **Pursh var. *pauciflorum*** **(*E. gnaphalodes auct. non* Benth., *E. multiceps* Nees)**
few-flowered buckwheat

HABITAT/RANGE:

Dry rocky, open slopes in the montane zone; rare in SE BC, reported only from South Kootenay Pass; E to SK and S to SD, MT, WY, NV and ID.

DESCRIPTION:

General: Perennial herb from a short, branched stem-base, forming loose mats; stems prostrate, simple, several, 5-15 (20) cm tall, white-woolly.

Leaves: Basal leaves linear-oblanceolate to spoon-shaped, grey woolly-hairy on both surfaces, 3-7 cm long, tapered gradually to the base; stem leaves similar, restricted to lower 1/6 to 1/3 of the stem.

Flowers: Inflorescence usually a head-like cluster of several involucres, subtended by a whorl of linear, semi-leafy bracts; involucres narrowly top-shaped, (3.5) 4-5 mm long with 5 short teeth; perianths 2-2.5 mm long, cream-coloured and often pink- or rose-tinged, occasionally yellow, hairy on the lower half, 6-lobed.

Fruits: Achenes, rough and warty.

Notes: Henry (1915) reported this species from South Kootenay Pass. This is the only citation for this species in BC and no material has been located in any of the major herbaria in Canada. If this collection was made by Henry himself the material was likely destroyed when his collection was burnt.

Eriogonum pyrolifolium **Hook. *ex* Murr. var. *coryphaeum* T.& G.**
alpine buckwheat

HABITAT/RANGE:

Dry scree slopes in the subalpine and alpine zones; rare in SC BC, known only from Cathedral Provincial Park; S to ID, MT and CA.

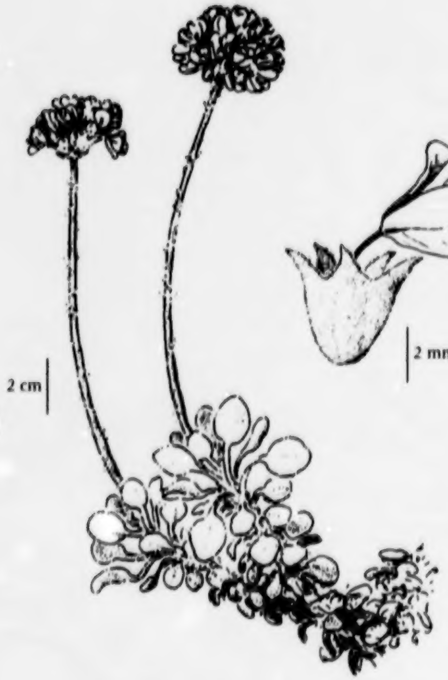
DESCRIPTION:

General: Perennial herb from a strong taproot, the crown simple to branched and woody, cushionlike, from withering, persistent leaf bases; stems ascending to erect, simple, several, 4-15 cm tall, white-woolly.

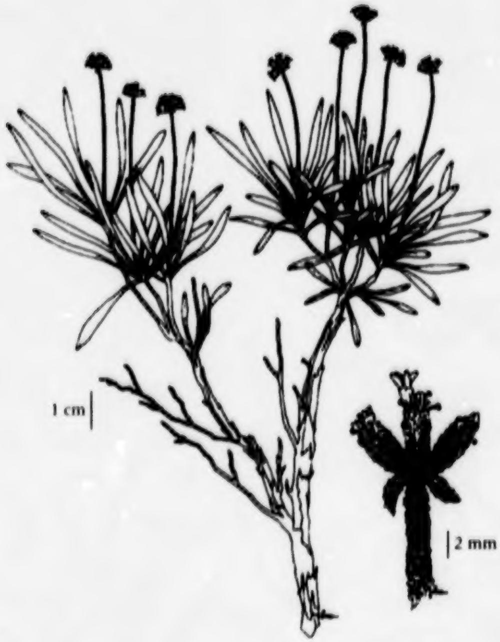
Leaves: Basal leaves elliptic to egg-shaped, greenish-yellow on the upper surface, greyish- or reddish-woolly below, the blades 1.5-4 cm long, the stalks about as long as the blade; stem leaves lacking.

Flowers: Inflorescence a head-like cluster of several involucres, subtended by 2 linear bracts 10-20 mm long; involucres somewhat head-like to plainly umbel-like, several-flowered, bell-shaped, 4-6 mm long, the teeth erect, up to 1 mm long; perianths white or greenish-white to pink or red, 4-5 mm long, narrowly bell-shaped, soft woolly-hairy, 6-lobed.

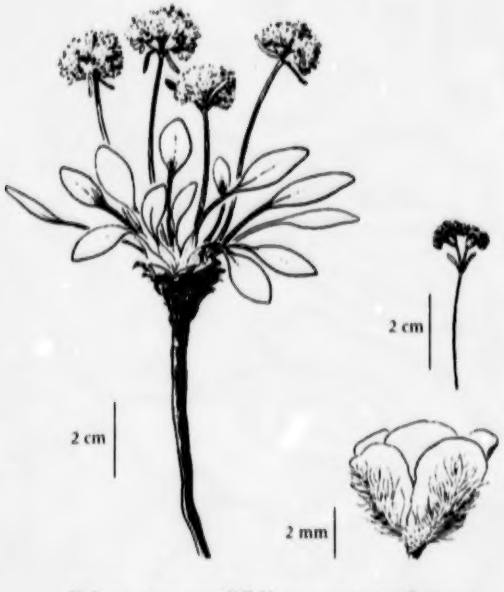
Fruits: Achenes, hairy at the tips.



Eriogonum ovalifolium var. *nivale*



Eriogonum pauciflo[illegible]*m* var. *pauciflorum*



Eriogonum pyrolifolium var. *coryphaeum*

Eriogonum strictum **Benth. var.** ***proliferum*** **(T. & G.) Reveal**
strict buckwheat

HABITAT/RANGE:

Dry shrublands and open forests in the steppe and lower montane zones; rare in SC BC, known only from the Keremeos area; S to ID, MT, NV and N CA.

DESCRIPTION:

General: Perennial herb from a branched stem-base, forming mats up to 40 cm wide; stems prostrate to ascending, simple, several, 10-35 cm tall/long, usually white-woolly.

Leaves: Basal leaves elliptic to egg-shaped or oval, grey woolly-hairy on the lower surface, grey-hairy to green on the upper surface, the blades 10-30 mm long, the stalks up to 4 times as long as the blades; stem leaves lacking.

Flowers: Inflorescence umbel-like and the involucres in part head-like at the branch ends; involucres bell-shaped to narrowly top-shaped, 3-5 mm long, with 5 erect teeth, cobwebby to woolly; perianths yellow, white or cream to pink, 3-4 mm long, smooth, 6-lobed, the outer segments wider than the inner ones.

Fruits: Achenes, smooth.

Eriogonum umbellatum **Torr.** (*E. subalpinum* Greene = var. *subalpinum*)
sulphur buckwheat

HABITAT/RANGE:

Dry grasslands, shrublands, forest openings, rock outcrops and scree slopes in the steppe to alpine zones; frequent in SC and SE BC; S to CO, UT and OR.

DESCRIPTION:

General: Perennial herb from a strong taproot and freely branched crown, forming loose flat mats up to 60 cm wide; stems prostrate to ascending, simple, several, 10-30 cm tall/long, usually white-woolly.

Leaves: Basal leaves elliptic to spoon-shaped, grey- to white woolly-hairy on the lower surface, greenish on the upper, the blades 1-3 (4) cm long, narrowed gradually to the stalks; stem leaves lacking.

Flowers: Inflorescence a large, simple or compound umbel, subtended by a whorl of leaflike bracts; involucres bell-shaped, hairy, 4-6 mm long, the 6-12 lobes 2-3 mm long, often reflexed; perianths creamy or pale to deep yellow, often tinged with rose or purple, smooth, 6-10 lobed; flowers usually imperfect.

Fruits: Achenes, smooth.

Notes: Two closely related varieties occur in BC:

1. Perianth white to cream or pale yellow .... var. *subalpinum* (Greene) M. E. Jones
1. Perianth bright yellow .... var. *umbellatum*

FAGOPYRUM

Fagopyrum esculentum **Moench** (*F. sagittatum* Gilib., *Polygonum fagopyrum* L.)
buckwheat

HABITAT/RANGE:

Mesic to dry railroad beds, fields and waste places in the lowland, steppe and montane zones; rare in S BC; introduced from Asia.

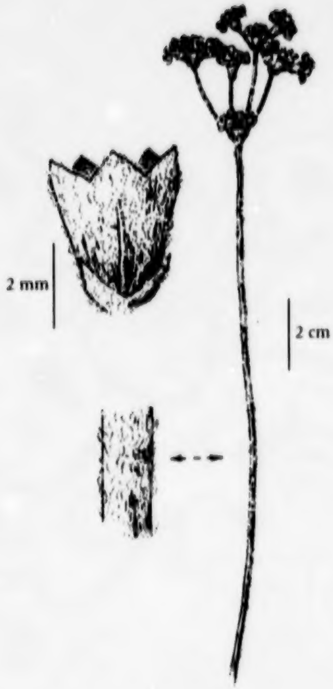
DESCRIPTION:

General: Annual herb from a taproot; stems erect or sprawling, simple, several, 20-60 cm tall, smooth to hairy, hollow, reddish at maturity.

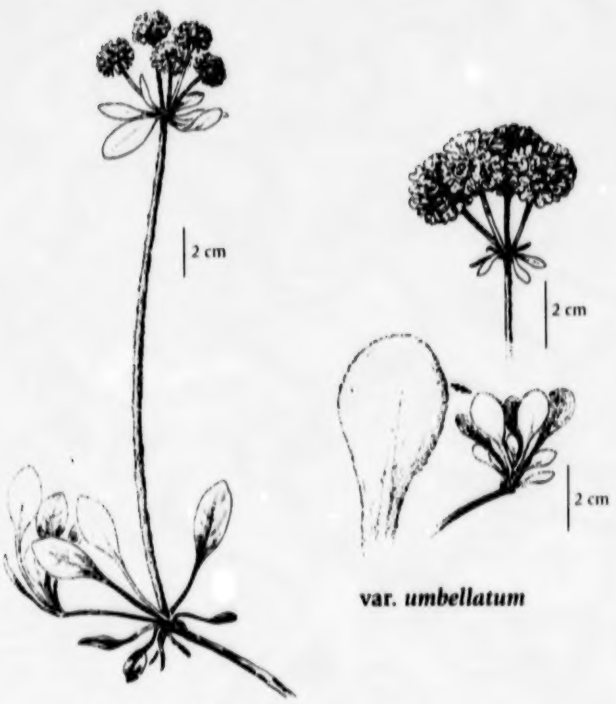
Leaves: Basal leaves egg- to arrowhead-shaped, the blades 3-10 cm long, the stalks up to 1/2 as long as the blades; stem leaves similar, reduced, the upper ones unstalked.

Flowers: Inflorescence of dense axillary and terminal, several- to many-flowered racemes; perianths white to pinkish, the 5 smooth segments 2-3 mm long; stamens 8.

Fruits: Achenes, 3-angled, 5-7 mm long, smooth, extending well beyond the persistent perianths.



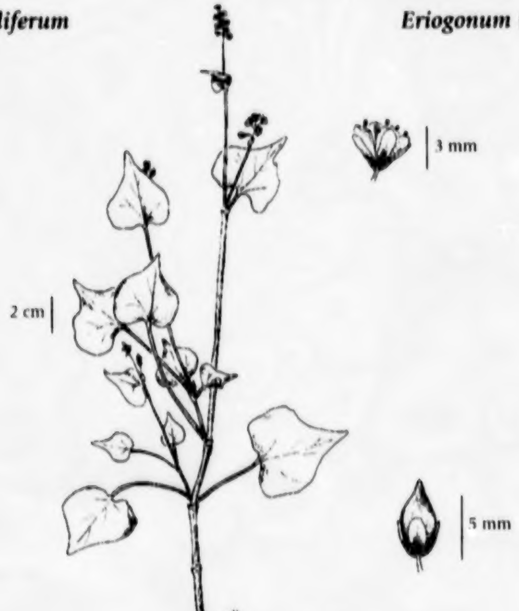
Eriogonum strictum var. *proliferum*



var. *subalpinum*

var. *umbellatum*

Eriogonum umbellatum



Fagopyrum esculentum

KOENIGIA

Koenigia islandica **L.**

Iceland koenigia

HABITAT/RANGE:

Moist to wet gravelly seepage sites in the subalpine and alpine zones; rare in NW and C BC; circumpolar, N to AK, YT and NT, E to ON and S to CO.

DESCRIPTION:

General: Annual herb from a slender taproot; stems ascending, slender, simple or branched, several, 2-6 cm long, often reddish or crimson.

Leaves: Basal leaves few, somewhat fleshy, smooth, the blades widely elliptic to lanceolate, 2-9 mm long, usually unstalked; stem leaves similar, few, alternate or opposite; sheathing stipules wax-papery.

Flowers: Inflorescence few- to several-flowered in terminal or axillary umbel-like clusters; perianths greenish, whitish, or reddish, smooth, 1.0-1.4 mm long.

Fruits: Achenes, 3-angled, smooth, up to 1 mm long.

OXYRIA

Oxyria digyna **(L.) Hill**

mountain sorrel

HABITAT/RANGE:

Moist rock outcrops, talus and scree slopes, streambanks and snowbed sites from the upper montane to alpine zones; common throughout BC, except rare on the Queen Charlotte Islands; circumpolar, N to AK, YT and NT, E to NF and S to NH, AZ, NM and CA; Iceland, Eurasia.

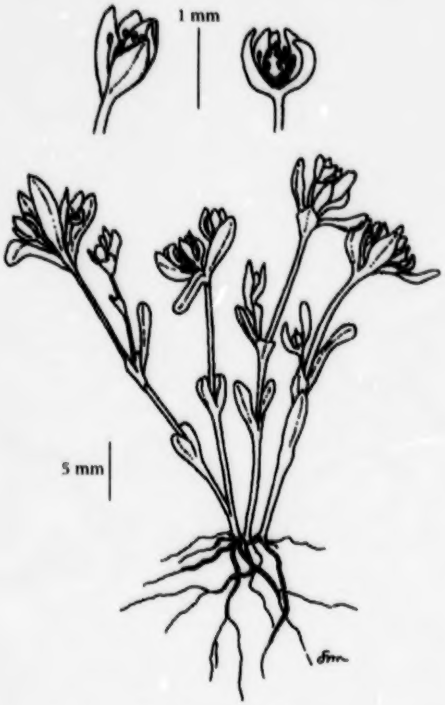
DESCRIPTION:

General: Perennial herb from a long, stout, fleshy taproot and branched crown; stems erect, few to numerous, 5-50 cm tall, smooth, often reddish-tinged, strongly acrid-juiced.

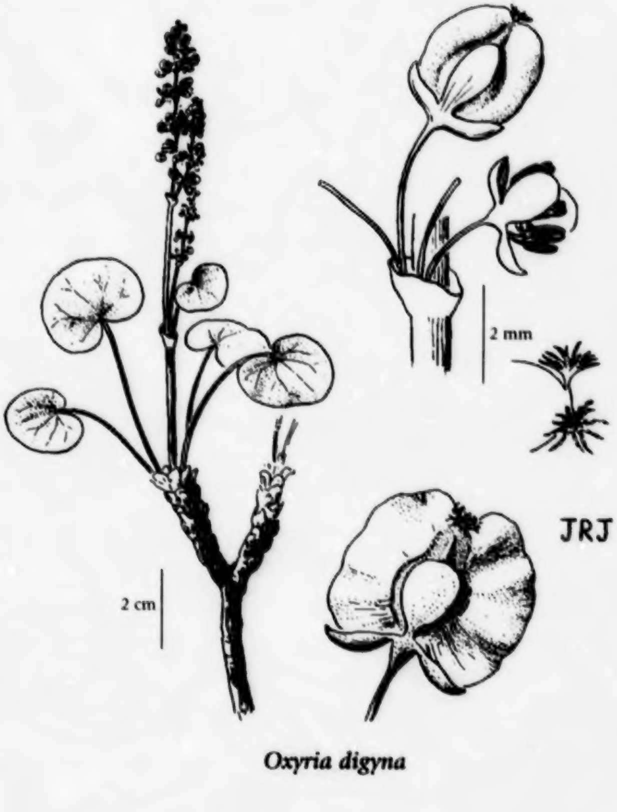
Leaves: Basal leaves round to kidney-shaped, the margins slightly wavy, smooth, the blades 1-5 cm wide, the stalks 4-8 cm long; stem leaves similar, usually 1 or lacking; stipules sheathing, membranous, brownish or reddish, the sheaths loose, oblique.

Flowers: Inflorescence of whorled flowers in a dense, narrow panicle-like raceme 5-15 cm long; perianths greenish or reddish, the segments 4, 1.5-2.5 mm long; stamens 6; sepals 4.

Fruits: Achenes, lens-shaped, widely winged, 4-6 mm wide.



Koenigia islandica



Oxyria digyna

POLYGONUM[10]

1. Outer perianth segments winged or keeled in fruit, plants introduced.
   2. Plants twining; leaves less than 7 cm long .... *P. convolvulus*
   2. Plants erect; leaves more than 10 cm long.
      3. Stems 1-3 m tall; leaf blades squared-off at the base, 10-15 cm long, the tips abruptly pointed .... *P. cuspidatum*
      3. Stems 2-4 m tall; leaf blades heart-shaped at base, 15-35 cm long, the tips gradually tapered .... *P. sachalinense*
1. Outer perianth-segments not winged or keeled in fruit, plants native or introduced.
   4. Flowers in wide, diffuse panicles .... *P. polystachyum*
   4. Flowers in spikes or axillary clusters.
      5. Plants usually annuals, usually with small taproots; stipules more or less clear and colourless, irregular in shape, becoming fringed.
         6. Achenes black or greenish-black, smooth and shiny.
            7. Plants semi-shrubby, freely branched perennials, the prostrate to ascending branches rooting readily .... *P. paronychia*
            7. Plants herbaceous, taprooted annuals.
               8. Leaves elliptic to more or less round, persistent, regularly spaced below, scarcely reduced upwards; stems reddish .... *P. minimum*
               8. Leaves, at least the lower ones, linear to oblanceolate or narrowly elliptic and deciduous early, reduced upwards; stems more or less green .... *P. douglasii*
         6. Achenes yellowish, yellowish-green, tan, or light- to dark-brown, roughened or pimply and usually dull, if smooth and shiny, then light- or yellowish- to dark-brown.
            9. Flowers in terminal spikelike racemes, closely crowded and usually overlapping, borne in the axils of often considerably longer bracts .... *P. polygaloides*
            9. Flowers mainly axillary to the leaves, seldom strongly crowded, the upper ones borne in the axils of reduced (and shorter) bracts.
               10. Achenes smooth or sometimes somewhat roughened, never pimply.
                   11. Leaves oblong or egg-shaped, 2-4 times as long as wide .... *P. fowleri*
                   11. Leaves lanceolate, oblanceolate or linear, 5-12 times as long as wide .... *P. ramosissimum*
               10. Achenes pimply (the pimples visible at 30x magnification).
                   12. Achenes slightly and uniformly pimply, yellowish-green to tan; fruiting perianths divided less than 1/2 to base .... *P. achoreum*
                   12. Achenes pimply in lines, dark brown; fruiting perianths divided 1/2 or more to the base.
                       13. Achenes usually more than 2.8 mm long; plants with leaves of 2 types (stem and branch leaves dissimilar) .... *P. aviculare*
                       13. Achenes less than 2.8 mm long; plants with leaves of 1 type (sometimes of 2 types in *P. arenastrum*).

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[10] Key adapted from Hitchcock and Cronquist (1973) and Wolf and McNeill (1986).

14. Achenes 2.0-2.8 mm long, the sides convex; stipules mostly entire but some ragged .... *P. buxiforme*

14. Achenes 1.6-2.2 mm long, 1 side concave, 2 sides convex; stipules ragged .... *P. arenastrum*

5. Plants perennials, sometimes annuals, usually rhizomatous; stipules red or brown, cylindric or funnel-like, margins sometimes bristly or partly papery.

15. Stems simple; leaves chiefly basal, blades oblong.

16. Racemes usually less than 1.5 cm wide (when pressed), usually well over 3 times as long as wide; lower flowers usually replaced by bulblets .... *P. viviparum*

16. Racemes usually more than 1.5 cm wide (when pressed), rarely over 3 times as long as wide; lower flowers not replaced by bulblets.

17. Flowers white to pinkish; plants of SC and SE BC .... *P. bistortoides*

17. Flowers deep pink; plants of NW BC .... *P. bistorta*

15. Stems branched; leaves on stems only, blades lanceolate to egg-shaped.

18. Flowers rose-colored, usually confined to 1 or 2 terminal or subterminal spikelike inflorescences; achenes lenticular; styles 2-4 mm long; perianths not glandular .... *P. amphibium*

18. Flowers white, greenish-white, or pink, usually borne in 2 to many contracted panicles; achenes mostly 3-angled; styles 0.3-1.5 mm long; perianths sometimes glandular.

19. Panicles globe- or head-shaped .... *P. nepalense*

19. Panicles cylindric-linear or open and lax.

20. Perianths glandular-dotted, the glands unstalked.

21. Achenes deep brownish-black to black, smooth, shiny; racemes interrupted; perianths mostly 5-lobed .... *P. punctatum*

21. Achenes brown, finely glandular-dotted, dull; racemes scarcely interrupted; perianths usually 4-lobed .... *P. hydropiper*

20. Perianths not glandular-dotted, at least on the exposed areas.

22. Stipules smooth .... *P. lapathifolium*

22. Stipules hairy.

23. Stipules long coarse-hairy, the hairs extending about 1 mm beyond the tops .... *P. minus*

23. Stipules appressed hairy, the hairs barely extending beyond the tops.

24. Leaves usually with a purplish spot about midlength; introduced plants of mesic to dry, disturbed sites .... *P. persicaria*

24. Leaves without a purplish spot; native plants of wet sites .... *P. hydropiperoides*

Polygonum achoreum Blake (*P. erectum* L. ssp. *achoreum* Blake)
Blake's knotweed

HABITAT/RANGE:

Dry roadsides and disturbed sites in the lowland and steppe zones; infrequent in BC east of the Coast-Cascades Mountains N to 53°N; N to AK, E to NF and S to NY and CO.

DESCRIPTION:

General: Annual herb from a taproot; stems prostrate to ascending, several, branched, ridged, bluish-green, 10-70 cm tall/long.

Leaves: Basal leaves lacking; stem leaves alternate, oval to egg-shaped, rounded at the tips, crowded and overlapping, blue-green to bright green, the blades 1-3 cm long, reduced upwards, the stalks short, jointed; stipules jagged, 5-11 mm long.

Flowers: Inflorescence of 1-3 flowers in axils of leaves or bracts; perianths 2.5-3.5 mm long, pear-shaped, 5-lobed less than 1/2 the distance to the base, greenish with narrow white or sometimes pinkish borders.

Fruits: Achenes, more or less 3-sided, yellowish-green to tan, dull, slightly but uniformly pimply, 3 mm long.

Polygonum amphibium L. (*Persicaria amphibia* [L.] S. F. Gray var. *emersa* [Michx.] Hickman, *Polygonum coccineum* Muhl. = var. *emersum*, *P. natans* Michx. = var. *stipulaceum*)
water smartweed

HABITAT/RANGE:

Wet shorelines, ditches and shallow water in the lowland, steppe and montane zones; var. *emersum* – infrequent in S BC, rare northward to NE BC, var. *stipulaceum* – common throughout BC; N to AK, YT and NT, E to NF and S to FL, TX and CA.

DESCRIPTION:

General: Perennial herb from a rhizome or stolon; stems prostrate and freely rooting to ascending, several, simple, with erect tips and flowering branches up to 30-80 cm tall/long.

Leaves: Basal leaves lacking; stem leaves lanceolate to egg-shaped, usually floating, smooth above, hairy to smooth below, the blades 5-15 cm long, the stalks up to 1/2 as long as the blades; stipules smooth to hairy, cylindric, 1-2 cm long.

Flowers: Inflorescence of 1 or 2 terminal or subterminal, spikelike panicles, 1-8 cm long, 1-2 cm wide; perianths scarlet to rose, 4-5 mm long, 5-lobed.

Fruits: Achenes, lens-shaped, brown to black, smooth, shiny or sometimes dull, 2.5-3 mm long.

Notes: Two intergrading varieties occur in BC:

1. Stalks usually glandular-hairy; inflorescence usually at least 4 cm long, cylindric .... var. *emersum* Michx.

1. Stalks usually smooth; inflorescence rarely 4 cm long, egg-shaped .... var. *stipulaceum* (Coleman) Fern.

Polygonum arenastrum Jord. _ex_ Boreau
oval-leaved knotweed

HABITAT/RANGE:

Mesic to dry disturbed sites, roadsides and waste places in the lowland, steppe and montane zones; infrequent in S BC, rare northward to 53°N; introduced from Eurasia.

DESCRIPTION:

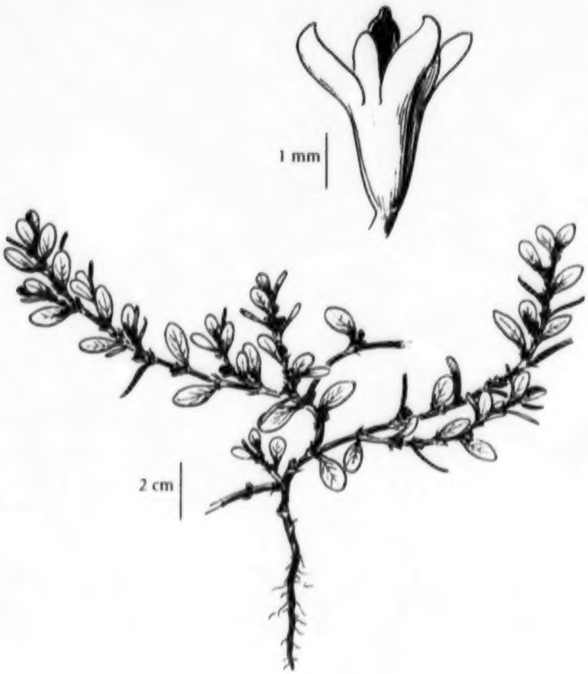
General: Annual or occasionally perennial herb from a taproot; stems prostrate, ascending or sometimes erect, several, usually 3-angled, at least when young, usually branched, the main branches 10-80 cm tall/long.

Leaves: Basal leaves narrowly lanceolate to oblong-lanceolate, pale or bluish-green, the blades 5-15 mm long, unstalked, jointed at the base; stem leaves alternate, stem and branch leaves usually similar, reduced upwards; sheathing stipules silvery, 4-6 mm long, ragged.

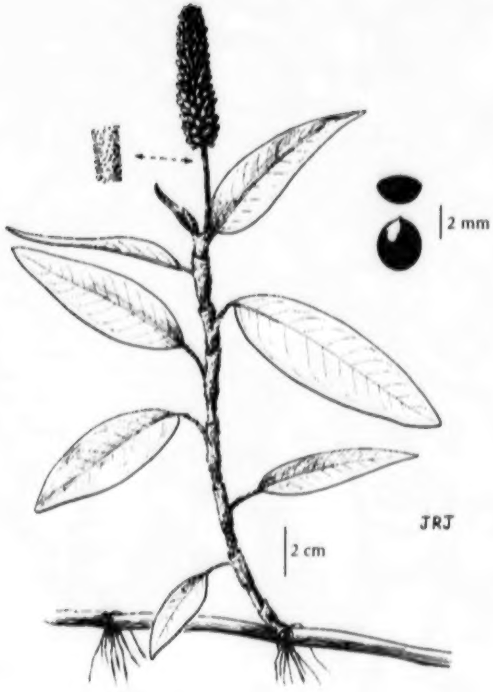
Flowers: Inflorescence of 1-5 flowers in axillary clusters; perianths 2-3 mm long, green with pink or white margins, 5-lobed more than 1/2 the distance to the base.

Fruits: Achenes, with one side concave and two sides convex, brown, dull, pimply in lines, 1.6-2.2 mm long.

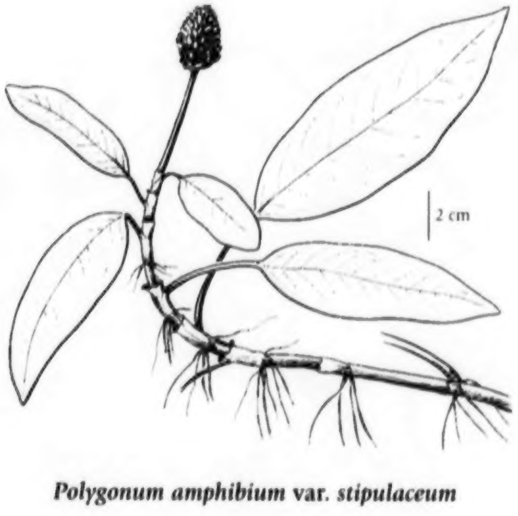
Notes: Often mistaken for *P. aviculare*, a species having stem and branch leaves dissimilar.



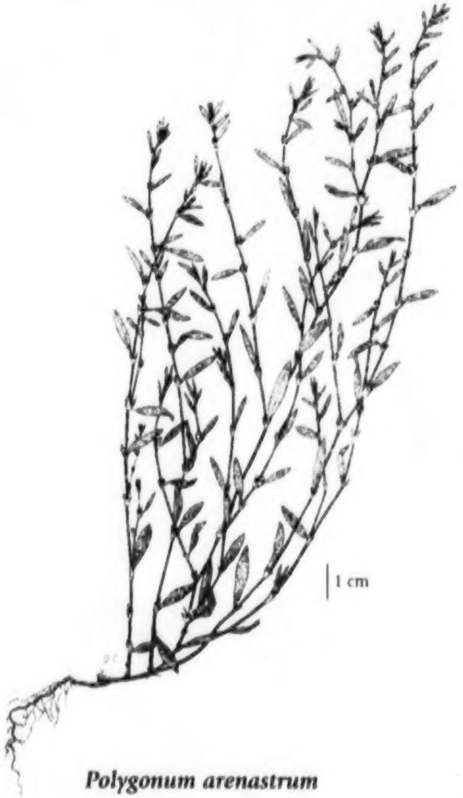
Polygonum achoreum



Polygonum amphibium var. emersum



Polygonum amphibium var. stipulaceum



Polygonum arenastrum

***Polygonum aviculare* L.**

common knotweed

HABITAT/RANGE:

Mesic to dry disturbed sites, roadsides and waste places; common in S BC, less frequent northward; introduced from Eurasia.

DESCRIPTION:

General: Annual herb from a taproot: stems prostrate to erect, several, branched, ridged, 10-100 cm tall/long.

Leaves: Basal leaves lacking; stem leaves alternate, widely linear to lanceolate-oblong, mostly bluish-green, the blades 1-3 cm long, slightly reduced upwards, the stalks short, jointed; branch leaves smaller than stem leaves; sheathing stipules brown, ragged, 3-6 mm long.

Flowers: Inflorescence of 1-3 axillary flowers; perianths 2-3 mm long, greenish with white or pink to red margins, 5-lobed more than 1/2 the distance to the base.

Fruits: Achenes, 3-angled, dark brown, obscurely lined lengthwise, pimply, 2.8-3.5 mm long, included to slightly exserted.

***Polygonum bistorta* L. ssp. *plumosum* (Small) Hult.** (*P. plumosum* Small)

meadow bistort

HABITAT/RANGE:

Moist meadows and streambanks in the alpine zone; rare in NW BC, known only from Mt. Edziza; circumpolar, N to AK, YT and NT; Eurasia.

DESCRIPTION:

General: Perennial herb from a thick, bulb-like rhizome; stems erect, solitary to few, simple, 10-50 cm tall.

Leaves: Basal leaves lanceolate to elliptic, dark green above, greyish below, the blades 2-12 cm long, squared off or nearly heart-shaped at the base, the stalks winged; stem leaves alternate, much reduced or lacking; stipules 1-8 cm long, brownish, often flaring.

Flowers: Inflorescence a thick, terminal, spike-like raceme of numerous flowers, 1.5-6 cm long, 1.5-2.5 cm wide; perianths 4-6 mm long, deep pink, 5-lobed nearly to the base.

Fruits: Achenes, 3-angled, yellowish-brown, smooth, shiny, 4 mm long.

***Polygonum bistortoides* Pursh** (*Bistorta bistortoides* [Pursh] Small)

American bistort

HABITAT/RANGE:

Moist to mesic meadows in the subalpine and alpine zones; infrequent in SC and SE BC; E to SW AB and S to MT, NM and CA.

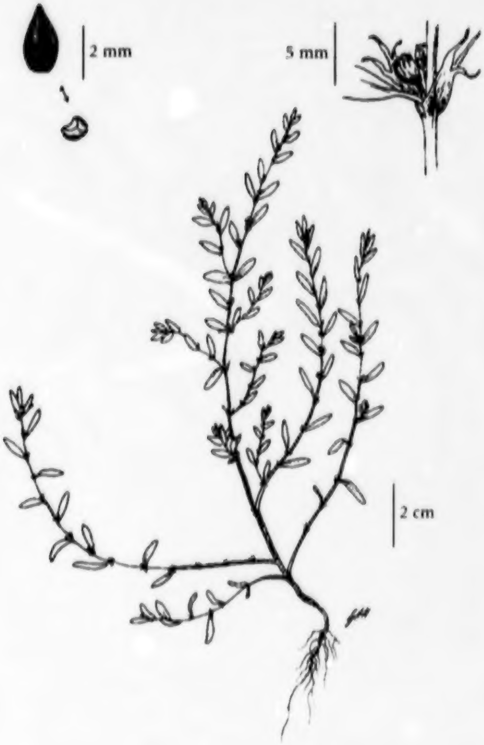
DESCRIPTION:

General: Perennial herb from a short, thick rhizome; stems erect, solitary to several, simple, 20-70 cm tall.

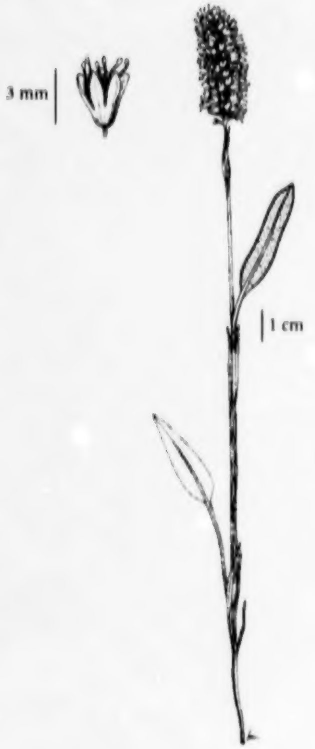
Leaves: Basal leaves lanceolate-oblong or oblanceolate, smooth on both sides or slightly hairy below, the blades 5-20 cm long, the stalks long; stem leaves alternate, few, reduced upward, all but the lowest unstalked; stipules brownish, oblique, not ragged, 3-6 cm long.

Flowers: Inflorescence a solitary, terminal, spike-like, many-flowered raceme, 1-5 cm long, 1.5-2.5 cm wide; perianths 4-5 mm long, white to pinkish, 5-lobed nearly to the base.

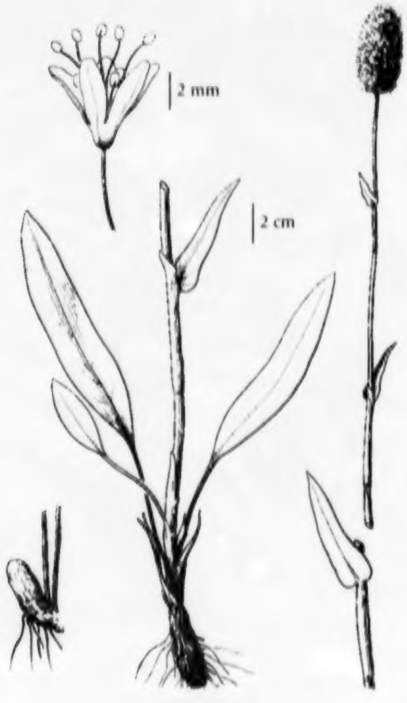
Fruits: Achenes, 3-angled, yellowish-brown, smooth, shiny, 3.5-4 mm long.



Polygonum aviculare



Polygonum bistorta* ssp. *plumosum



Polygonum bistortoides

Polygonum buxiforme **Small**

eastern knotweed

HABITAT/RANGE:

Dry roadsides and disturbed sites in the steppe and montane zones; rare E of the Coast-Cascade Mountains in BC south of 54°N; probably introduced from E North America.

DESCRIPTION:

General: Annual herb or semi-shrub from a taproot; stems prostrate, several, branched, ribbed, sometimes woody towards the base, 10-100 cm long.

Leaves: Basal leaves lacking; stem leaves alternate, egg-shaped to lanceolate, with a grey bloom, the blades 5-25 mm long, the stalks short; branch leaves similar to stem leaves; sheathing stipules silvery, up to 5 mm long, entire or ragged.

Flowers: Inflorescence in 2- to 6-flowered, axillary racemes; perianths 2-3 mm long, 5-lobed more than 1/2 the distance to the base, greenish with white or pink margins, the tube with a pouch-like protrusion.

Fruits: Achenes, 3-angled, the sides convex, dark brown, pimply in lines, 2.0-2.8 mm long, included in the perianths.

Polygonum convolvulus **L.** (*Bilderdykia convolvulus* [L.] Dumort., *Fallopia convolvulus* [L.] A. Löve)

black bindweed

HABITAT/RANGE:

Moist to mesic waste places and fields in the lowland, steppe and montane zones: infrequent in S BC, rare northward; introduced from Eurasia.

DESCRIPTION:

General: Annual herb from taproot; stems prostrate, climbing, or almost erect, solitary or few, branched, smooth, 20-100 cm tall/long.

Leaves: Basal leaves lacking; stem leaves arrow-head- to egg-shaped, dull green, the blades 2-5 cm long, the stalks short to long; stipules funnel-shaped, 2-5 mm long, usually brownish-membranous, soon deciduous.

Flowers: Inflorescence of few to several flowers in axillary and terminal racemes or reduced panicles; perianths green, 3.5-4.5 mm long, 5-lobed.

Fruits: Achenes 3-angled, black, very finely granular, dull to shiny, 3-4 mm long.

Polygonum cuspidatum **Sieb. & Zucc.** (*Reynoutria japonica* Houtt.)

Japanese knotweed

HABITAT/RANGE:

Moist to mesic ditches and disturbed sites in the lowland zone; frequent in the lower Fraser Valley, rare in the Queen Charlotte Islands, Powell River and SC BC; introduced from Asia.

DESCRIPTION:

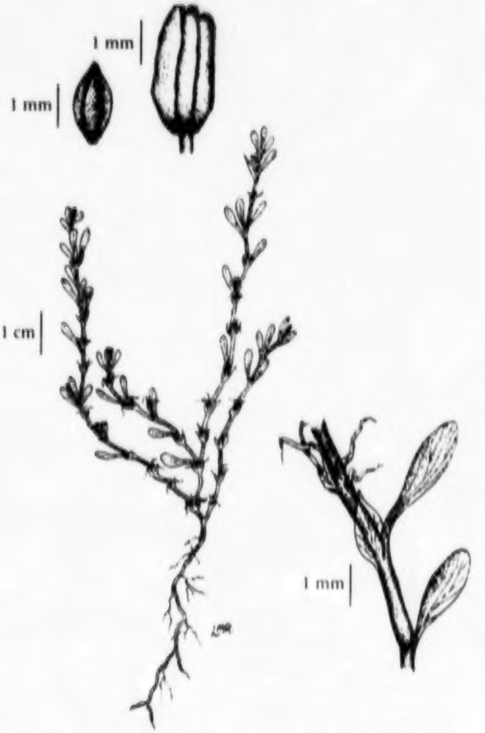
General: Perennial herb from a rhizome; stems erect, numerous, branched, 1-3 m tall, reddish-brown.

Leaves: Basal leaves lacking; stem leaves alternate, 10-15 cm long, the blades egg-shaped to more or less round, the bases rounded or squared off, the tips abruptly pointed, long stalked; stipules short, tubular, entire, usually deciduous.

Flowers: Inflorescence of numerous flowers in many panicles; perianths whitish or greenish-white, about 2 mm long at anthesis, 5-lobed nearly to the base.

Fruits: Achenes, 3-angled, black, smooth and shiny, 2.5-3 mm long.

Notes: Easily confused with *P. sachalinense*.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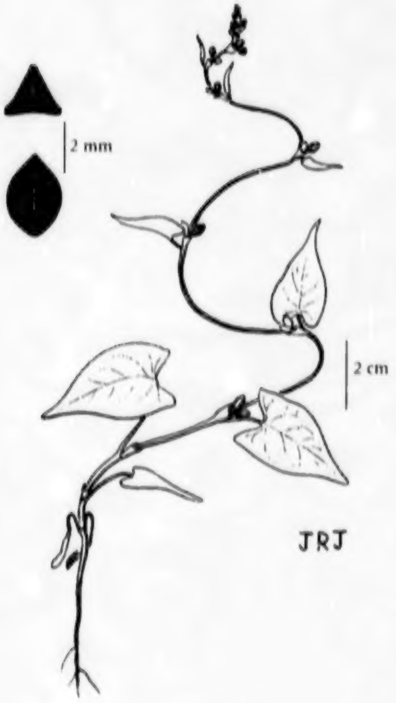
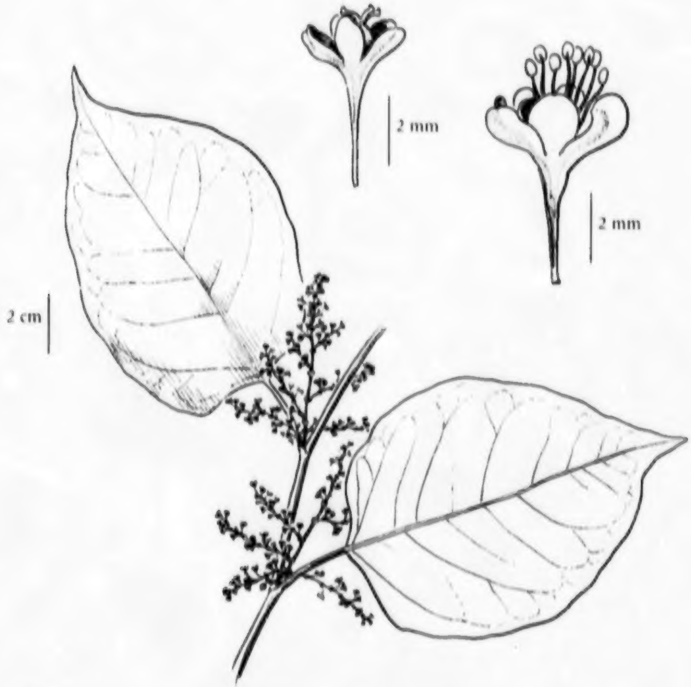
Polygonum buxiforme



Polygonum convolvulus



Polygonum cuspidatum

***Polygonum douglasii* Greene** (*P. austiniae* Greene = ssp. *austiniae; P. engelmannii* Greene = ssp. *engelmannii; P. douglasii* var. *latifolium* [Engelm.] Greene = ssp. *douglasii; P. majus* [Meisn.] Piper = ssp. *majus; P. nuttallii* Small = ssp. *nuttallii, P. sawatchense* Small = ssp. *johnstonii; P. spergulariiforme* Meisn. *ex.* Small = *ssp. spergulariiforme)*

Austin's knotweed (ssp. *austiniae*), **Douglas' knotweed** (ssp. *douglasii*), **Engelmann's knotweed** (ssp. *engelmannii*), **Nuttall's knotweed** (ssp. *nuttallii*), **Sawatch knotweed** (ssp. *johnstonii*), **spurry knotweed** (ssp. *spergulariiforme*), **wiry knotweed** (ssp. *majus*)

HABITAT/RANGE:

-ssp. *austiniae* – Moist to dry grasslands, shrublands, rocky slopes and forest openings in the steppe and lower montane zones; rare in SE BC, known only from Sage Creek and possibly South Kootenay Pass (the latter collection at CAN may actually be from AB); S to WY and NE CA.

-ssp. *douglasii* – Moist to dry rocky slopes and disturbed sites in the lowland and montane zones; frequent in SC BC and on Vancouver Island, rare elsewhere in BC; E to PQ and S to NY, UT, NM and CA.

-ssp. *engelmannii* – Moist to dry grasslands, shrublands, rocky slopes and forest openings in the steppe and montane zones; rare in SE BC; E to SW AB and S to WY and CO.

-ssp. *johnstonii* – Moist to dry rocky slopes, forest openings and roadsides in the montane zone; rare in SW BC, known only from Manning Provincial Park; S to ND, ID, MT and CO.

-ssp. *majus* – Dry grasslands, shrublands, rocky slopes and forest openings in the steppe and montane zones; infrequent in SC BC; S to ID, W MT and CA.

-ssp. *nuttallii* – Dry rocky slopes, disturbed sites and forest openings in the lowland and montane zones; infrequent in and W of the Coast-Cascade Mountains in S BC; rare northward to 54°N, absent from the Queen Charlotte Islands; S to NW OR.

-ssp. *spergulariiforme* – Moist to dry gravelly sites in the lowland and steppe zones; common on S Vancouver Island, the Gulf Islands and adjacent coast; S to ID, CO and CA.

DESCRIPTION:

General: Annual herb from a small taproot; stems ascending to erect, numerous, simple to freely branched, 10-40 cm tall.

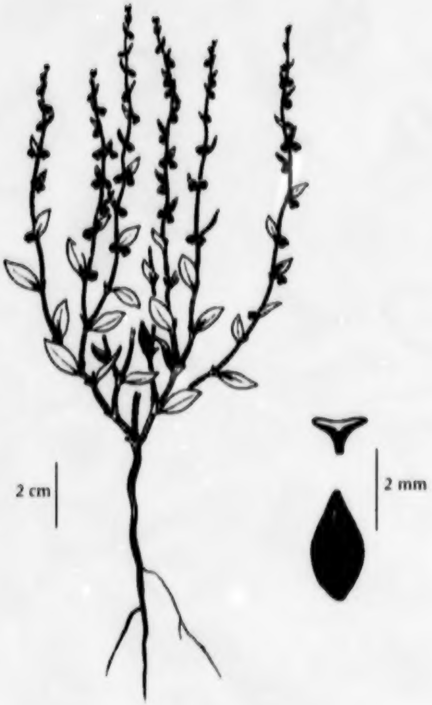
Leaves: Basal leaves lacking; stem leaves alternate, linear to narrowly oblong, egg-shaped or elliptic, the blades 1-8 cm long, unstalked or nearly so, sometimes reduced to bracts above; stipules short-sheathing, 5-12 mm long, clear, becoming ragged.

Flowers: Inflorescence of few flowers in elongate axillary racemes; perianths 1.5-5 mm long, greenish with white or pinkish margins, 5-lobed nearly to the base.

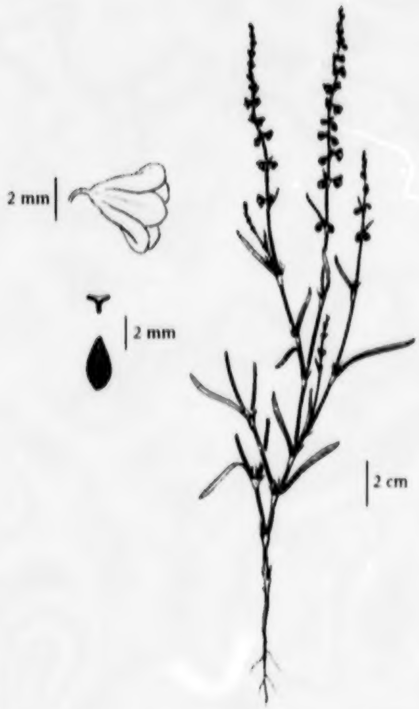
Fruits: Achenes, lanceolate to egg-shaped, sometimes 3-angled, black, smooth and shiny, 2-4 mm long.

Notes: Seven subspecies occur in BC:

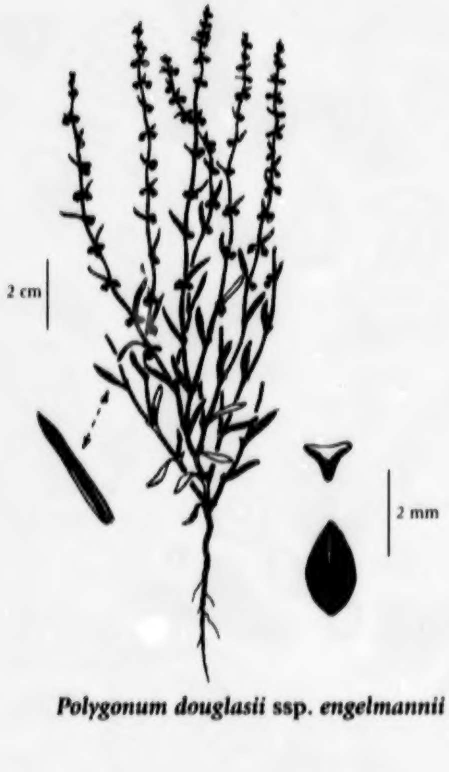
1. Perianths 3-5 mm long, opening partly or widely.
    2. Flower clusters scattered; perianth white, opening widely .... ssp. *majus* (Meisn.) Hickman
    2. Flower clusters crowded at the stem tips; perianth more or less pink, opening partly .... ssp. *spergulariiforme* (Meisn. ex Small) Hickman
1. Perianths 1.5-4 mm long, generally remaining closed or nearly so.
    3. Fruits reflexed; leaves linear (sometimes oblong in ssp. *douglasii*).
        4. Fruits 2-2.5 mm long; perianths 1.5-2.5 mm long, usually shorter than the fruits .... ssp. *engelmannii* (Greene) Kartesz & Gandi
        4. Fruits 3-3.5 mm long; perianths 2.5-4.5 mm long, usually longer than the fruits ...... ssp. *douglasii*
    3. Fruits erect or reflexed; leaves narrowly lanceolate, oblong or egg-shaped.



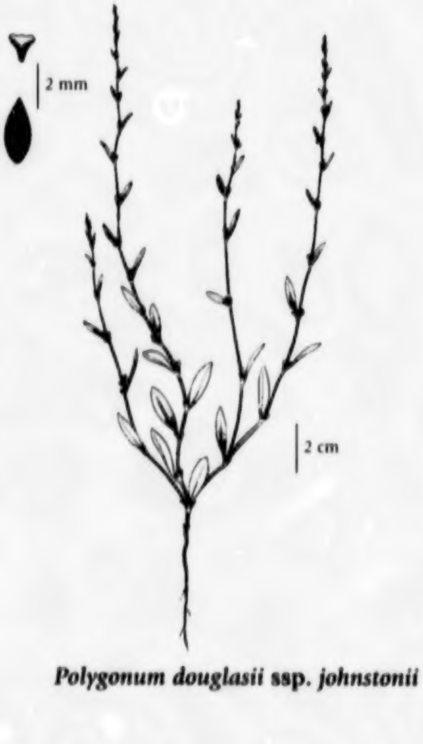
Polygonum douglasii ssp. *austiniae*



Polygonum douglasii ssp. *douglasii*



Polygonum douglasii ssp. *engelmannii*



Polygonum douglasii ssp. *johnstonii*

5. Fruits reflexed .... ssp. *austiniae* (Greene) E. Murray
5. Fruits erect.
    6. Largest leaves usually less than 4 mm wide .... ssp. *nuttallii* (Small) Hickman
    6. Largest leaves always over 4 mm wide .... ssp. *johnstonii* (Munz) Hickman

***Polygonum fowleri* B.L. Robins.**

Fowler's knotweed

HABITAT/RANGE:

Salt marshes and sandy or gravelly shorelines in the lowland zone; infrequent in coastal BC; N to AK, E to NF and S to OR.

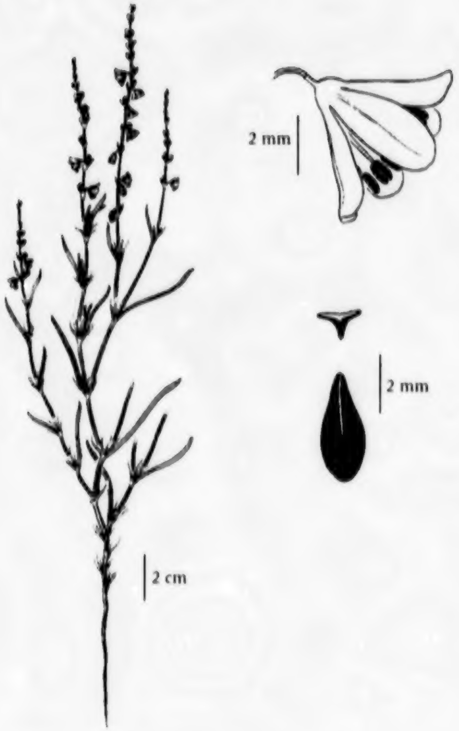
DESCRIPTION:

General: Annual (occasionally biennial) herb from a taproot; stems prostrate to ascending, several, branched, round in cross-section, grooved, 10-30 (50) cm tall/long.

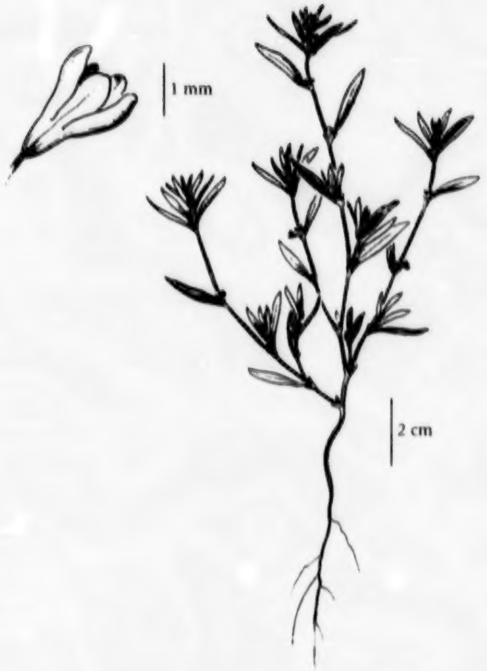
Leaves: Basal leaves lacking; stem leaves alternate, oblong or egg-shaped, usually overlapping but not crowded, the blades 1.5-3 cm long, somewhat reduced upward, the stalks short to long, jointed at the base; stipules ragged, 3-6 mm long.

Flowers: Inflorescence of few to several flowers in axillary clusters; perianths about 3-4.5 mm long, greenish with pink margins, 5-lobed about 2/3 the distance to the base.

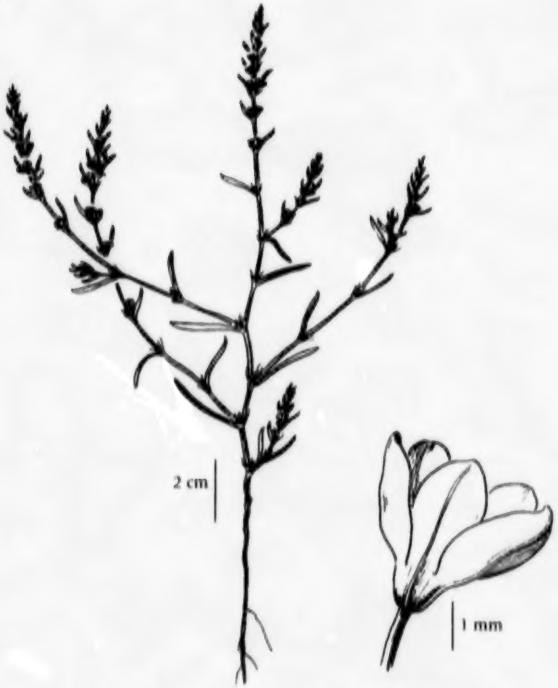
Fruits: Achenes, 3-angled, olive-green to yellowish-brown, lance-egg-shaped, nearly smooth, usually shiny, usually exserted 1-3 mm.



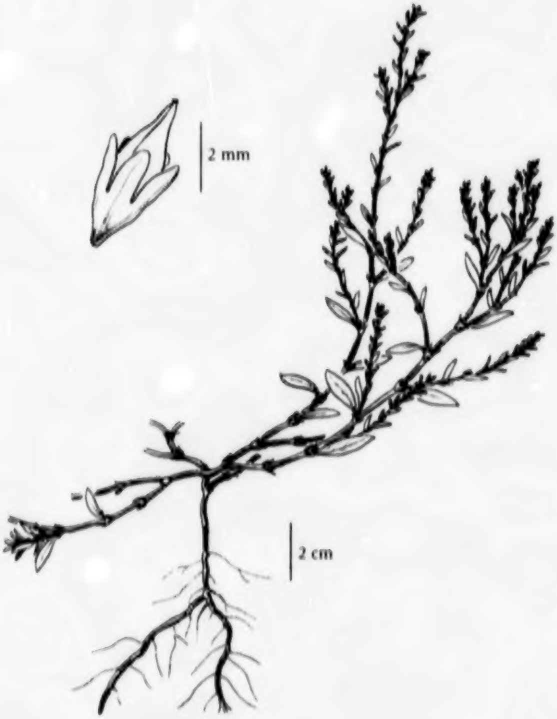
Polygonum douglasii ssp. *majus*



Polygonum douglasii ssp. *nuttallii*



Polygonum douglasii ssp. *spergulariiforme*



Polygonum fowleri

Polygonum hydropiper **L.** (*Persicaria hydropiper* [L.] Opiz)
marshpepper smartweed

HABITAT/RANGE:

Moist ditches, shorelines and disturbed sites; common in SW, infrequent in SC BC; introduced from Eurasia.

DESCRIPTION:

General: Annual (occasionally perennial) herb from fibrous root; stems ascending to erect, several, simple to branched, tending to root at the nodes, more or less finely pitted or gland-dotted, peppery-tasting, 20-100 cm tall.

Leaves: Basal leaves lacking; stem leaves alternate, lanceolate or elliptic-lanceolate, sparsely hairy to smooth, the blades 3-7 cm long, somewhat reduced upward, the stalks short; stipules oblique, up to 15 mm long, usually sparsely hairy and fringed with bristly hairs at the top.

Flowers: Inflorescence of axillary and terminal, spikelike, scarcely interrupted, drooping racemes, 2-7 cm long; perianths 2.5-4 mm long, glandular-dotted, greenish with white (pink) margins, usually 4-lobed about 2/3 the distance to the base; stamens usually six.

Fruits: Achenes, lens-shaped or 3-angled, brown, finely glandular-dotted, dull, 2.5-3 mm long.

Notes: Closely related to *P. punctatum*.

Polygonum hydropiperoides **Michx.** (*Persicaria hydropiperoides* [Michx.] Small)
water-pepper

HABITAT/RANGE:

Wet swampy sites, shorelines and shallow water in the lowland, steppe and montane zones; rare in S BC; E to NB and NS and S to FL, TX and MX; S. America.

DESCRIPTION:

General: Perennial herb from a rhizome; stems ascending to erect, several, simple, rooting freely, 20-100 cm tall.

Leaves: Basal leaves lacking; stem leaves alternate, lanceolate or oblong-lanceolate, smooth to appressed hairy, the blades 5-12 cm long, slightly reduced upward, the stalks short; stipules 1-2 cm long, appressed hairy and fringed with hairs at the top.

Flowers: Inflorescence of 2 or sometimes 3, slender, spikelike racemes, 6-10 cm long; perianths greenish to white or pinkish, 2.5-3 mm long, 5-lobed slightly more than 1/2 the distance to the base; stamens 8.

Fruits: Achenes, 3-angled, brown or black, smooth and shiny, 2.5-3 mm long.

Polygonum lapathifolium **L.** (*P. scabrum* Moench, *Persicaria lapathifolia* [L.] S.F. Gray)
willow weed

HABITAT/RANGE:

Moist meadows and wet shorelines and swamps in the lowland, steppe and montane zones; common in SW BC, infrequent in SC BC, rare in SE and NE BC; introduced from Europe.

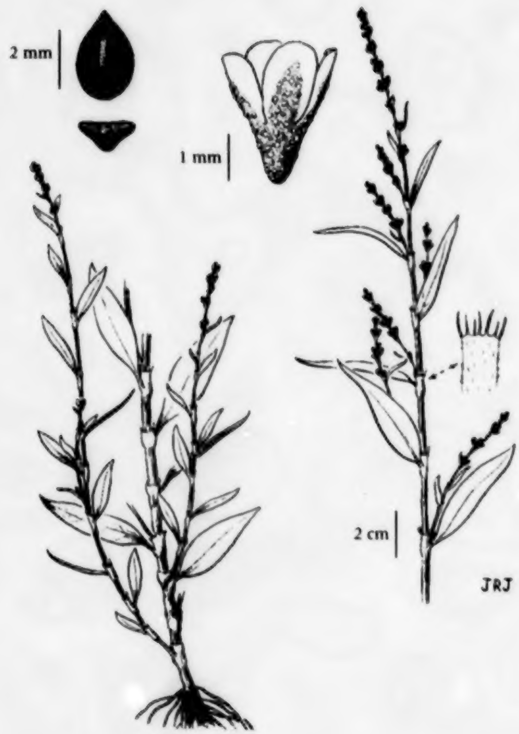
DESCRIPTION:

General: Annual herb from a taproot; stems erect (occasionally prostrate), solitary, usually freely branched, 20-80 cm tall/long.

Leaves: Basal leaves lacking; stem leaves alternate, lanceolate or oblong-lanceolate, smooth or more often hairy or glandular below, the blades 5-20 cm long, the stalks short; stipules 5-20 mm long, brownish, more or less smooth, fringed with bristly hairs at the top.

Flowers: Inflorescence a loose, often drooping panicle of spikelike racemes, 1-6 cm long; perianths greenish-white to pink, distinctly veined, the veins branching and turned back at the tip, about 2.5 mm long, 4- to 5-lobed nearly to the base.

Fruits: Achenes, usually lens-shaped, egg-shaped to nearly rounded, dark brown, smooth and shiny, 2-3 mm long.


2 mm
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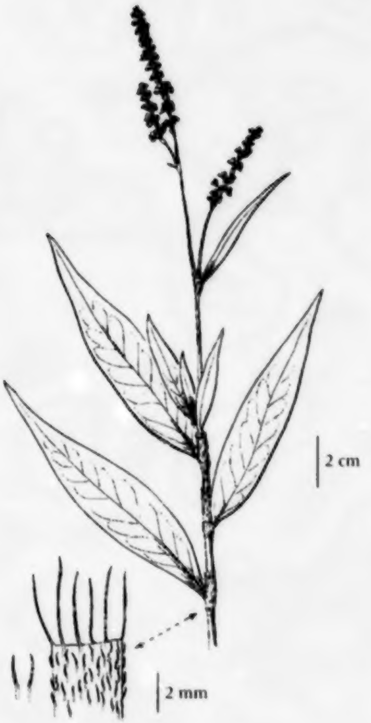
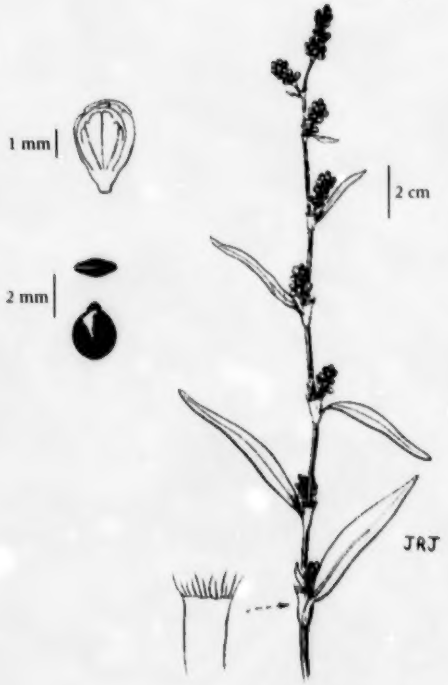
Polygonum hydropiper



Polygonum hydropiperoides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Polygonum lapathifolium

Polygonum minimum **S. Wats.**

leafy dwarf knotweed

HABITAT/RANGE:

Moist vernal sites to dry rocky slopes and forest openings in the lowland to alpine zones; infrequent in BC S of 55°N; E to AB and S to CO and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems ascending to erect, several, branched, 3-15 cm tall, reddish, round in cross-section, grooved.

Leaves: Basal leaves lacking; stem leaves alternate, elliptic to more or less round, the blades 5-25 mm long, the stalks very short or lacking; stipules translucent, 2-4 mm long, ragged.

Flowers: Inflorescence of 2-3 flowers in axillary clusters; perianths 1.5-2 mm long, green with pinkish margins, 5-lobed about 2/3 the distance to the base.

Fruits: Achenes, 3-angled, greenish-black, smooth, shiny, 2-2.5 mm long. barely exceeding the perianths.

Polygonum minus **Hudson**

Asian knotweed

HABITAT/RANGE:

Wet, muddy shorelines in the lowland and steppe zones; infrequent in SW BC (lower Fraser Valley), rare in SC BC (Tranquille); introduced from Europe.

DESCRIPTION:

General: Annual herb from a fibrous root; stems prostrate to ascending, several, simple or branched, 10-40 cm tall/long.

Leaves: Basal leaves lacking; stem leaves alternate, linear to narrowly elliptic, the blades 3-10 cm long, 5-8 mm wide, the stalks short; stipules long coarse-hairy, the hairs extending about 1 mm beyond the tips.

Flowers: Inflorescence of several flowers in spikelike racemes; perianths pink or purplish (rarely white), 1.5-3.5 mm long.

Fruits: Achenes, 3-angled or lens-shaped, 2-2.5 mm long, black, smooth and shiny.

Polygonum nepalense **Meisn.** (*Persicaria nepalense* [Meisn.] Miyabe)

Nepalese knotweed

HABITAT/RANGE:

Mesic to dry disturbed sites and gravel bars in the lowland zone; locally frequent in SW BC (Vancouver area); recently introduced from Asia.

DESCRIPTION:

General: Annual herb from a fibrous root; stems decumbent, several, branched, 30-60 cm long.

Leaves: Basal leaves lacking; stem leaves alternate, widely lanceolate to wedge-shaped, the blades 0.5-7 cm long, the stalks short, winged; stipules smooth, 2-6 mm long, fringed at the tips.

Flowers: Inflorescence of several flowers in crowded, globe- or head-shaped axillary or terminal panicles; perianths green with pinkish margins, 2-2.5 mm long.

Fruits: Achenes, 3-angled or lens-shaped, 1.5-2 mm long, roundish, black, pimply, shiny.

Polygonum paronychia **Cham. & Schlecht.**

black knotweed; beach knotweed

HABITAT/RANGE:

Moist to mesic sand dunes and beaches in the lowland zone; infrequent on S Vancouver Island and the Gulf Islands; S to CA.

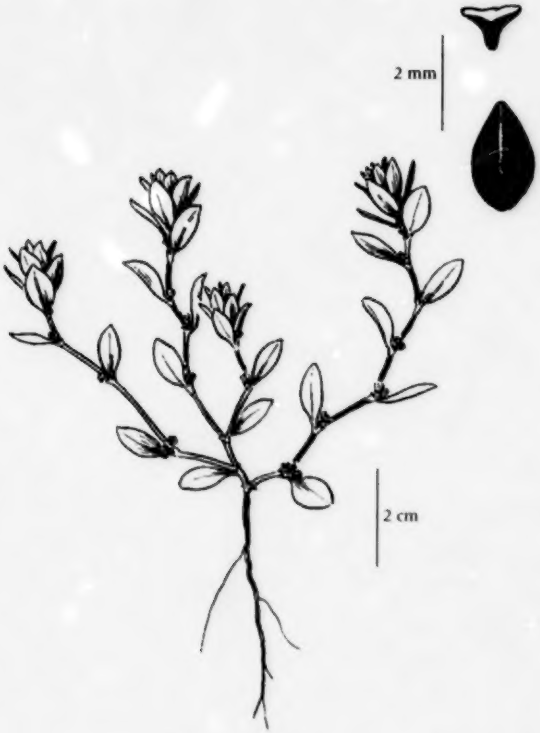
DESCRIPTION:

General: Perennial semi-shrub from a strong, fibrous root; stems prostrate to ascending, several, freely branched, smooth, rooting at the branch nodes, 30-100 cm tall/long.

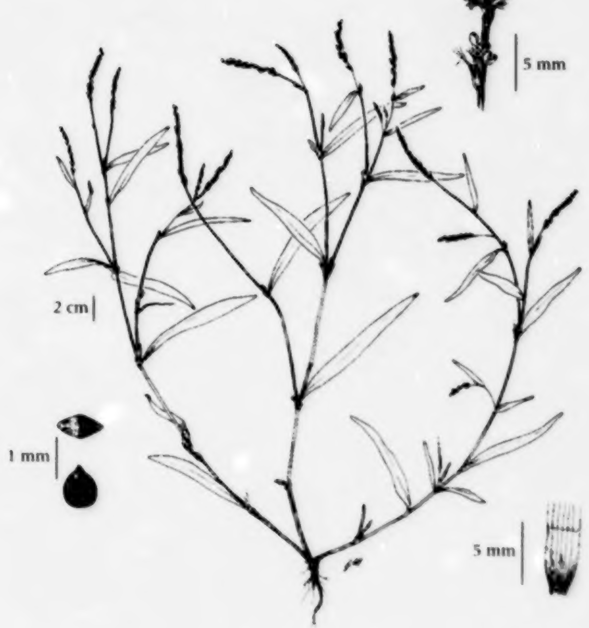
Leaves: Basal leaves lacking; stem leaves alternate, narrowly oblong but rolled under and so appearing linear in outline, the blades 1-2 cm long, unstalked; stipules translucent, ragged.

Flowers: Inflorescence of several flowers in clusters in the upper leaf axils; perianths white to pink, 5-6 mm long, unequally 5-lobed 1/2 to 3/4 the distance to the base.

Fruits: Achenes, 3-angled, 4-5 mm long, black, smooth, shiny.



Polygonum minimum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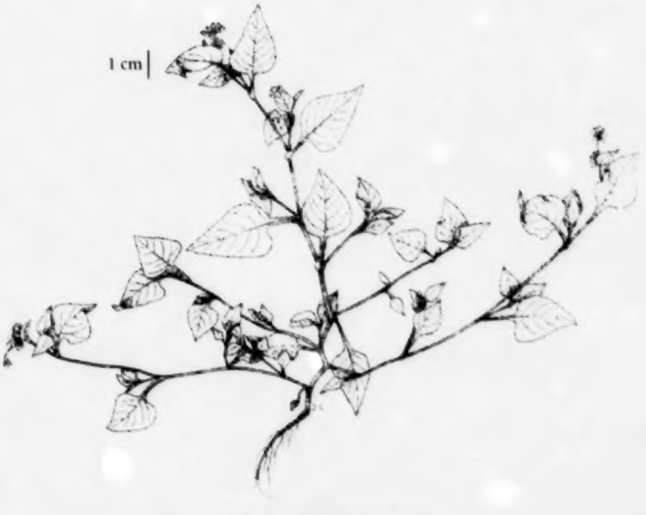
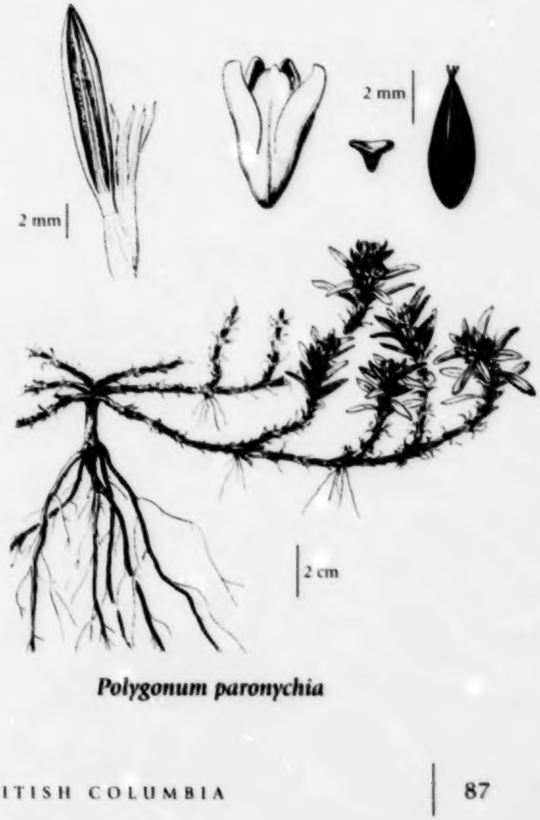
Polygonum minus



Polygonum nepalense



Polygonum paronychia

Polygonum persicaria **L.** (*Persicaria maculata* [Raf.] S.F. Gray, *P. vulgaris* Webb & Mog.)

lady's-thumb

HABITAT/RANGE:

Mesic to dry roadsides, ditches, fields and waste places in the lowland, steppe and montane zones; common in SW BC, infrequent in SC and SE BC, rare northward along the coast; introduced from Eurasia.

DESCRIPTION:

General: Annual herb from a taproot; stems prostrate to erect, solitary, simple or branched, 30-100 cm tall.

Leaves: Basal leaves lacking; stem leaves alternate, lanceolate, the blades 3-10 cm long, smooth to appressed hairy, usually with a purplish spot near midlength, the stalks short, thick; stipules cylindric-conic, 5-15 mm long, entire, appressed hairy, fringed with bristly hairs at the tips.

Flowers: Inflorescence of many flowers in crowded, cylindric, compound racemes; perianths pink or purplish, rarely white, 1.5-3.5 mm long, 5-lobed nearly to the base.

Fruits: Achenes, 3-angled or lens-shaped, 2-3 mm long, egg-shaped to roundish, nearly black, smooth, shiny.

Notes: Sometimes difficult to separate from *P. hydropiperoides*.

Polygonum polygaloides **Meisn.** (*P. confertiflorum* Piper, *P. watsonii* Small = ssp. *confertiflorum*; *P. kelloggii* Greene = ssp. *kelloggii*)

close-flowered knotweed (ssp. *confertiflorum*); **Kellogg's knotweed** (ssp. *kelloggii*)

HABITAT/RANGE:

Wet vernal pools and ditches to dry roadsides and meadows in the montane and subalpine zones; ssp. *confertiflorum* – rare in SC BC, ssp. *kelloggii* Greene – rare in S BC; E to SW AB and S to CO, AZ and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems erect or ascending, solitary, usually freely branched, smooth, angled, 1-15 cm tall.

Leaves: Basal leaves lacking; stem leaves alternate, linear, the blades 10-40 mm long, unstalked; stipules ragged, 4-8 mm long.

Flowers: Inflorescence a terminal, spikelike raceme, closely crowded and usually overlapping, in groups of 1-4 in the axils of white- or green-margined floral bracts; perianths 2-3 mm long, white to red, unequally 5-lobed 2/3 the distance to the base.

Fruits: Achenes 3-angled, brown to nearly black, dull or shiny, smooth or longitudinally lined, 1.5-2 mm long, sometimes difficult to separate.

Notes: Two subspecies occur in our region.

1. Floral bract margins white; achenes brown to nearly black; usually dull, longitudinally grooved .... ssp. *confertiflorum* (Piper) Hickman

1. Floral bract margins green; achenes brown, usually shiny, smooth .... ssp. *kelloggii* (Greene) Hickman

Polygonum polystachyum **Wall. *ex* Meisn.** (*Aconogonum polystachyum* [Wall. *ex* Meisn.] Kral)

Himalayan knotweed

HABITAT/RANGE:

Mesic fields and waste places in the lowland zone; rare in extreme SW BC and the Queen Charlotte Islands; introduced from SC Asia.

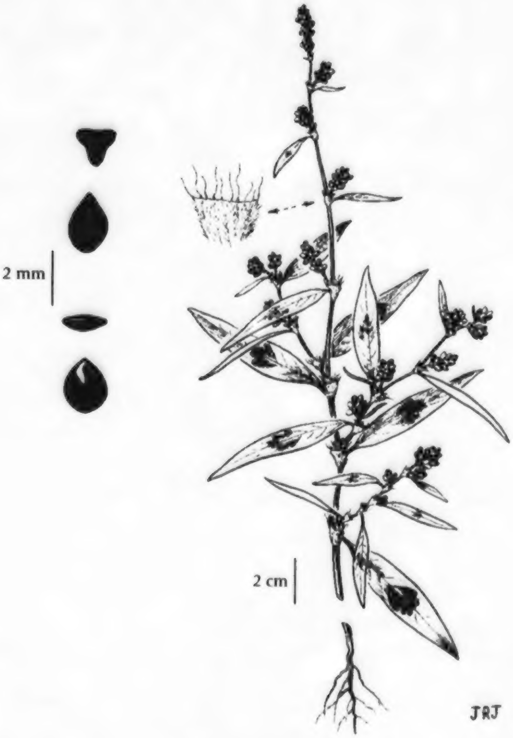
DESCRIPTION:

General: Perennial herb from strongly creeping rhizomes; stems erect, numerous, branched, 1-2 m tall, reddish-brown.

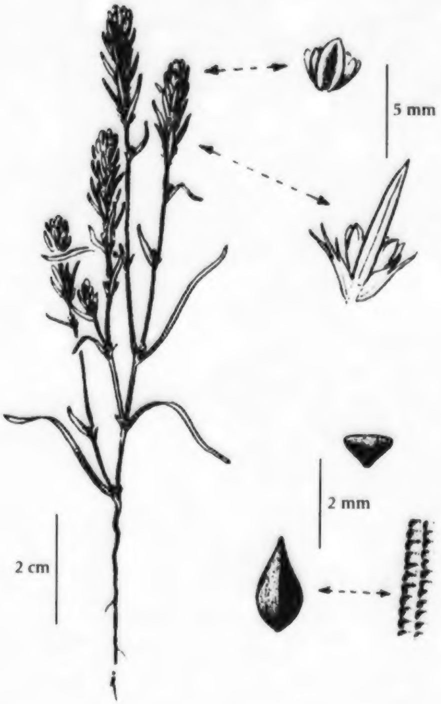
Leaves: Basal leaves lacking; stem leaves alternate, lanceolate, the blades up to 20 cm long, densely soft-hairy, the base rounded to somehat heart-shaped, often with 2 small lobes, the stalks short; stipules sheathing, entire.

Flowers: Inflorescence a wide, diffuse panicle; perianth segments white, 3-5 mm long, not keeled on the back.

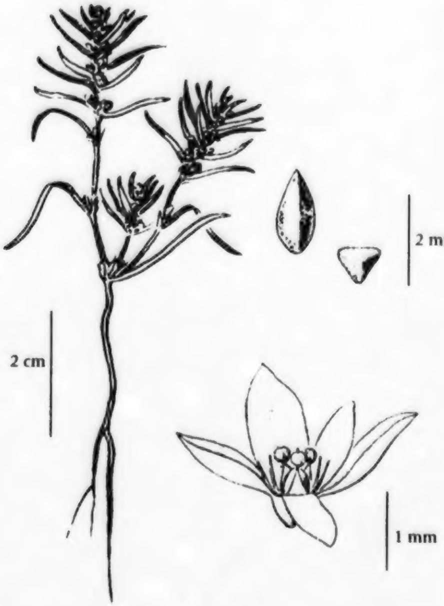
Fruits: Apparently sterile in our range.



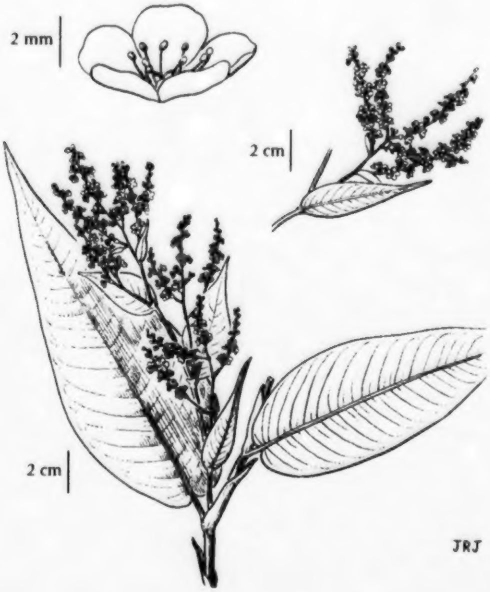
Polygonum persicaria



Polygonum polygaloides ssp. *confertiflorum*



Polygonum polygaloides ssp. *kelloggii*


2 mm
2 cm
2 cm
JRJ

Polygonum polystachyum

Polygonum punctatum **Ell.** (*Persicaria punctata* [Ell.] Small)

dotted smartweed

HABITAT/RANGE:

Swamps and wet meadows in the lowland and steppe zone; rare in SW (lower Fraser Valley) and SC BC; E to NB and NS and S to FL, TX, MX and CA; S. Asia.

DESCRIPTION:

General: Annual herb from a rhizome; stems prostrate to erect, solitary from the rooted rhizome, few to numerous, 30-100 cm tall/long.

Leaves: Basal leaves lacking; stem leaves alternate, lanceolate, mostly smooth, 5-10 cm long, short-stalked; stipules sparsely hairy, 10-15 mm long, sometimes fringed with bristly hairs at the tops.

Flowers: Inflorescence of axillary and teminal, spikelike, interrupted racemes; perianths greenish with white margins, glandular-dotted, 5-lobed to about 1/2 the distance to the base; stamens usually 8.

Fruits: Achenes, 2- to 3-angled, deep brownish-black to black, smooth, shiny.

Notes: Closely related to *P. hydropiper*.

Polygonum ramosissimum **Michx.** (*P. prolificum* [Small] B.L. Robins. = var. *prolificum* Small)

bushy knotweed; yellow-flowered knotweed (var. *ramosissimum*); proliferous knotweed (var. *prolificum*)

HABITAT/RANGE:

Moist to dry shorelines, ditches and waste places; rare in SC and NE (var. *prolificum*) BC; E to NS and NB, and S to MO, PA, TX, NM and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems erect or ascending, branched, the branches slender, 30-120 cm tall, round or slightly angled in cross-section, longitudinally lined.

Leaves: Basal leaves lacking; stem leaves alternate, lanceolate to oblanceolate or linear, thin, the blades 1-6 cm long, reduced upwards, unstalked; stipules silvery-brown, 6-12 mm long, ragged.

Flowers: Inflorescence of small, terminal and (usually) axillary racemes, 1-3 flowers per axil; perianths greenish with yellow margins, about 3 mm long, unequally 5-lobed 2/3 the distance to the base.

Fruits: Achenes, three-angled, rounded at the base, dark reddish-brown, smooth and shiny (occasionally obscurely lined or roughened), 2.5-4 mm long.

Notes: Two varieties have been recognized but often confused in BC:

1. Leaves pointed; achenes about 3 mm long; flower stalks 2.5-3.5 mm long, exserted from the sheathing stipules; plants native, rare in SC BC .... var. *ramosissimum*

1. Leaves rounded; achenes less than 2.5 mm long; flower stalks 2 mm long, included in the sheathing stipules; plants introduced, rare in NE BC .... var. *prolificum* Small

Polygonum sachalinense **F. Schmidt *ex* Maxim.** (*Reynoutria sachalinense* [F. Schmidt *ex* Maxim.] Nakai)

giant knotweed; sachaline

HABITAT/RANGE:

Mesic fields, roadsides and waste places in the lowland zone; infrequent on Vancouver Island, the Gulf Islands and the Vancouver area, rare on the midcoast (Prince Rupert); introduced from Asia.

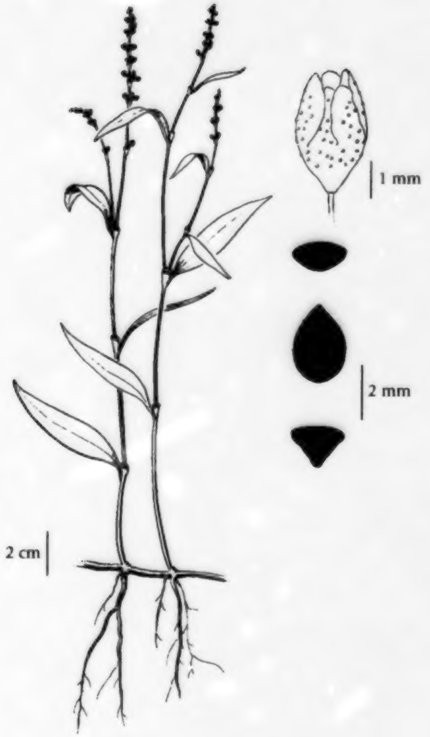
DESCRIPTION:

General: Perennial herb from a rhizome; stems erect, numerous, branched, 2-4 m tall, reddish, hollow.

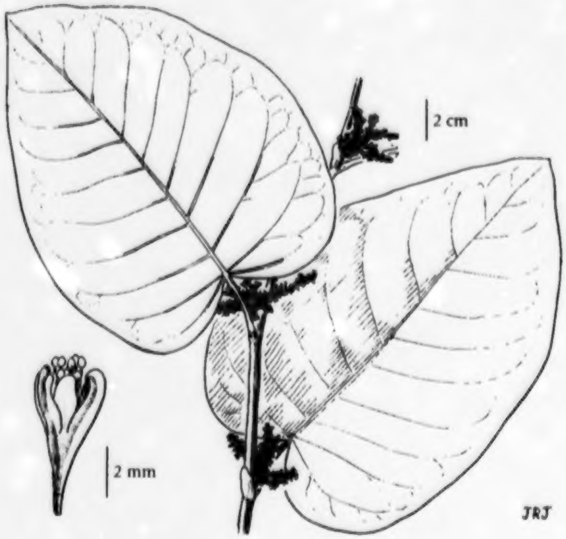
Leaves: Basal leaves lacking; stem leaves alternate, 10-30 cm long, the blades widely egg-shaped, the bases heart-shaped, the tips gradually tapered, long stalked; stipules tubular, entire.

Flowers: Flowers in small axillary panicles; perianths 2-3 mm long, pale green or greenish-white, unequally 5-lobed, the outer lobes strongly winged.

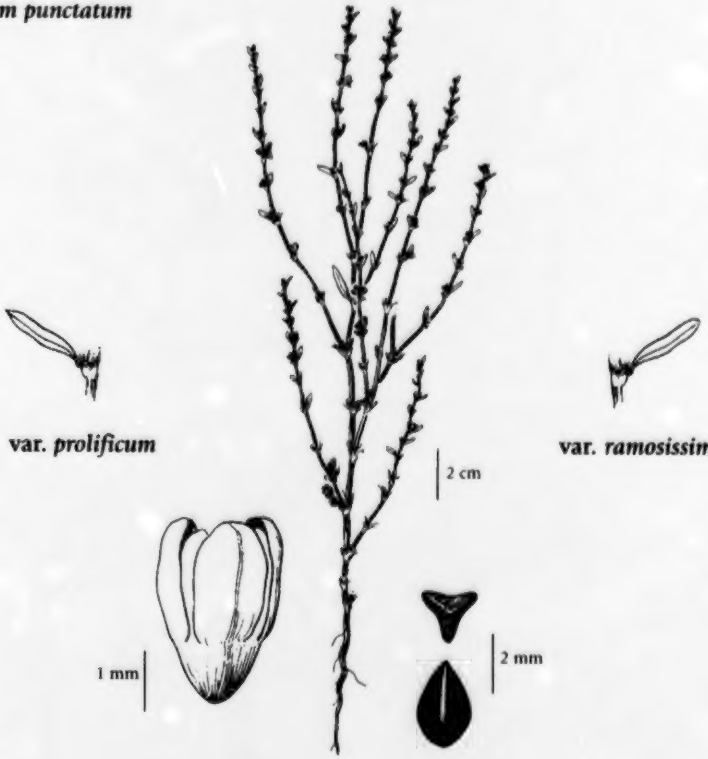
Fruits: Achenes, 3-angled, about 3 mm long, black, smooth and shiny.



Polygonum punctatum



Polygonum sachalinense


var. prolificum
var. ramosissimum
2 cm
1 mm
2 mm

Polygonum ramosissimum

Polygonum viviparum **L.** (*Bistorta vivipara* [L.] S.F. Gray)

alpine bistort

HABITAT/RANGE:

Moist forest openings, meadows, streambanks and rocky slopes and ridges in the upper montane to alpine zones; frequent in and east of the Coast-Cascade Mountains in BC, rare along the coast; circumpolar, N to AK, YT and NT, E to NF and S to NH, MN, MI, UT, NM and OR; Eurasia, Iceland.

DESCRIPTION:

General: Perennial herb from a short, thick, often contorted rhizome; stems erect, solitary, simple, 10-30 cm tall.

Leaves: Basal leaves alternate, lanceolate to oblong or egg-shaped, the blades 3-10 cm long, the stalks longer than the blades; stem leaves 2-4, nearly linear, reduced and becoming unstalked upwards; stipules brown, strongly sheathing, 1-5 cm long, entire.

Flowers: Inflorescence a single, terminal, spikelike raceme, 2-10 cm long, mostly 1-1.5 mm wide, the lower flowers replaced by small pinkish to purple bulblets; perianths 3-3.5 mm long, white or pink, 5-lobed 2/3 or more the distance to the base.

Fruits: Achenes, 3-angled, dark brown, smooth to somewhat granular, 2-3 mm long, usually not developing.

RUMEX[11]

1. Flowers mostly or entirely unisexual, the plants usually dioecious (male and female flowers on separate plants); leaves arrowhead-shaped or, if otherwise, then the plants subalpine or alpine.
    2. Leaves tapered at each end, never arrowhead-shaped; plants subalpine to alpine, with thick taproots .... *R. paucifolius*
    2. Leaves, or at least some of them, arrowhead-shaped; plants lowland or montane, often weedy, usually rhizomatous.
        3. Leaves arrowhead-shaped, the lobes pointing downward; flower stalks jointed about midlength; plants not rhizomatous .... *R. acetosa*
        3. Leaves arrowhead-shaped, the lobes spreading outward; flower stalks jointed next to the flower; plants rhizomatous .... *R. acetosella*
1. Flowers mostly or entirely bisexual; leaves various, rarely arrowhead-shaped; plants not subalpine or alpine.
    4. Inner perianth segments becoming more or less strongly toothed or dissected (the teeth at least 1 mm long), 1 or more with a prominent grain-like swelling.
        5. Plants annuals; inner perianth segments each with a prominent grain-like swelling; perianth segments with long slender teeth or bristles on each margin; leaves oblong to lanceolate, 4-10 (15) cm long, rarely over 1/4 as wide .... *R. maritimus*
        5. Plants perennials; inner perianth segments, except for 1 or sometimes 2 of them, lacking prominent grain-like swellings; perianth segments with short, stout teeth on each margin; leaves widely oblong or widely egg-shaped, 10-20 (35) cm long, usually well over 1/4 as wide .... *R. obtusifolius*
    4. Inner perianth segments entire to slightly ragged or toothed (the teeth less than 1 mm long), with or without prominent grain-like swellings.
        6. Inner perianth segments without grain-like swellings.
            7. Stems branched from the lower nodes; inner perianth segments seldom more than 3 mm long .... *R. salicifolius*
            7. Stems simple below the inflorescence; inner perianth segments 3-10 mm long.
                8. Leaves narrowly lanceolate to oblong, only the lowermost ones more or less heart-shaped at the base; inflorescence unbranched or with a few short branches; plants often purplish-tinged, rare in N BC .... *R. arcticus*

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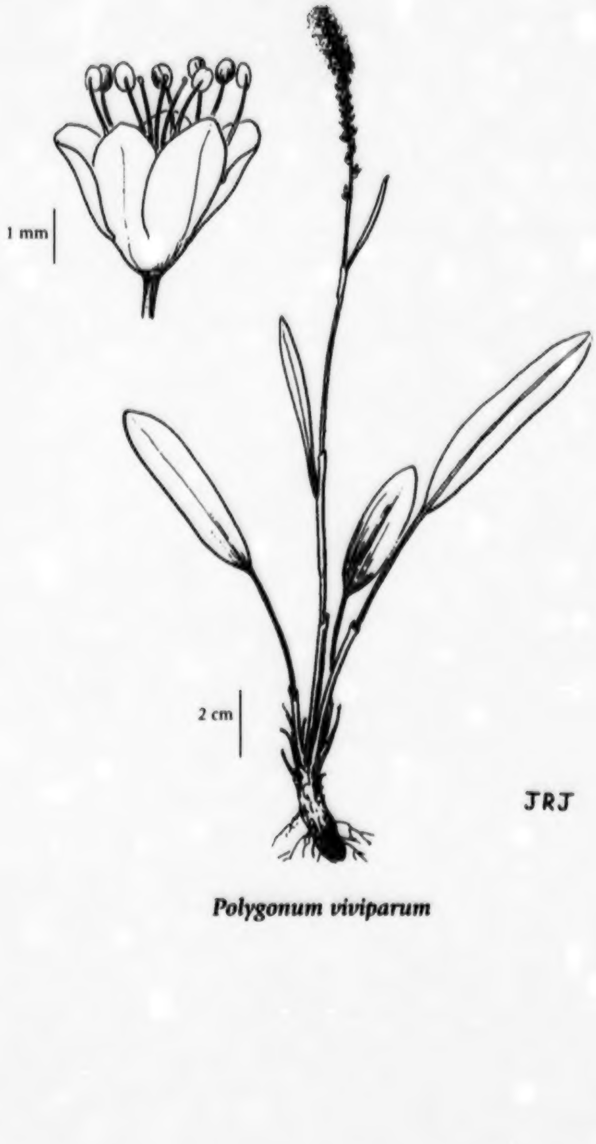
[11] Key adapted from Hitchcock and Cronquist (1973).



Polygonum viviparum

        8. Leaves oblong to oblong-lanceolate, the leaves usually more or less heart-shaped to rounded at the base; inflorescence compound; plants rarely purplish-tinged, frequent throughout BC .... *R. aquaticus*

    6. Inner perianth segments all, or at least 1 or 2 of them, with grain-like swellings.

        9. Stems branched from some or all of the lower nodes .... *R. salicifolius*

        9. Stems simple below the inflorescence.

            10. Inner perianth segments heart-shaped, the grain-like swellings about 1/4-1/3 the length of the segments .... *R. patientia*

            10. Inner perianth segments broadly egg-shaped or oblong, the grain-like swellings at least 1/2 as long as the segments.

                11. Flower panicles dense, the whorls of flowers often touching, at least towards the branch ends; leaves strongly wavy-margined .... *R. crispus*

                11. Flower panicles open, the whorls of flowers not touching; leaves not strongly wavy-margined .... *R. conglomeratus*

Rumex acetosa **L.** (*R. alpestris* Scop. = ssp. *alpestris*)

green sorrel; garden sorrel

HABITAT/RANGE:

Moist to mesic meadows, streambanks, thickets and forest openings in the montane to alpine zones (ssp. *alpestris*), mesic to dry roadsides and waste places in the montane zone (ssp. *acetosa*); ssp. *alpestris* – common in N BC east of the Coast-Cascade Mountains, infrequent in S BC east of the Coast-Cascade Mountains, ssp. *acetosa* – rare in S BC; ssp. *alpestris* N to AK, YT and NT, and E to Greenland, ssp. *acetosa* introduced from Eurasia.

DESCRIPTION:

General: Perennial dioecious (male and female flowers on separate plants) herb from a taproot surmounted by simple or branched crown, with coarse roots; stems erect, solitary to several, simple (below the inflorescence), 30-100 cm tall, stout, ribbed, smooth.

Leaves: Basal leaves oblong to oblong-lanceolate, at least the lower ones arrowhead-shaped with the lobes pointing downward, smooth, the blades 2-10 cm long, the stalks long; stem leaves alternate, similar, becoming short stalked or unstalked (and clasping) above.

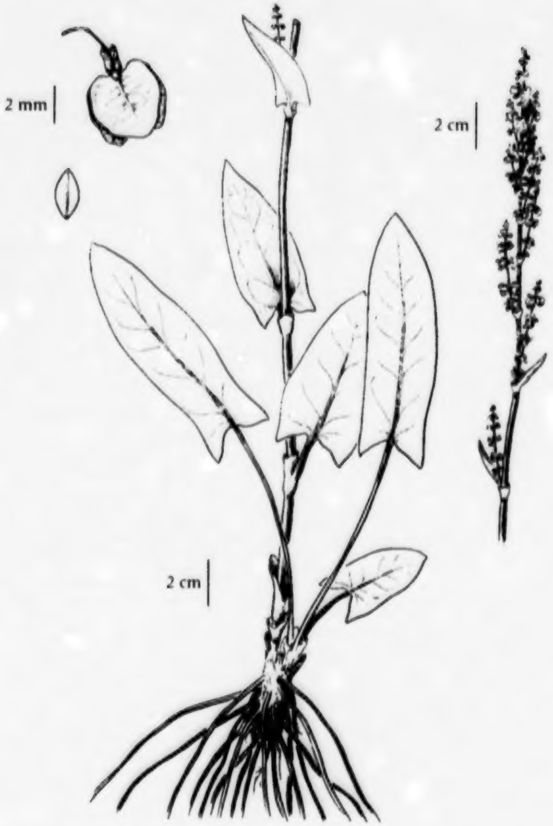
Flowers: Inflorescence of numerous, unisexual flowers in large, elongate panicles, 10-20 cm long; flower stalks jointed near middle; perianths reddish, outer segments about 1.5-3 mm long, becoming sharply reflexed, inner segments erect, 3-4 mm long, loosely enclosing the achenes in fruit, with a small, basal, grain-like swelling.

Fruits: Achenes, dark brown, smooth, 2-2.5 mm long.

Notes: Two subspecies occur in BC:

1. Stipular sheaths entire, sometimes fringed with age .... ssp. *alpestris* (Scop.) A. Löve

1. Stipular sheaths fringed or shredded at the top .... ssp. *acetosa*



Rumex acetosa* ssp. *alpestris

Rumex acetosella **L.** (*R. angiocarpus* Murb.)

sheep sorrel

HABITAT/RANGE:

Mesic to dry gardens, fields, roadsides and waste places; common in S BC, rare northward; introduced from Eurasia.

DESCRIPTION:

General: Annual or perennial dioecious (male and female flowers on separate plants) herb from slender rhizomes and simple to branched crowns; stems erect, several, simple (below the inflorescence), 15-30 cm tall, smooth.

Leaves: Basal leaves linear to egg-shaped, at least some arrowhead-shaped, with the lobes pointing outwards, smooth, the blades 1-5 cm long, the stalks often longer than the blades; stem leaves alternate, similar but reduced upward, nearly unstalked.

Flowers: Inflorescence of unisexual flowers in an open, large but narrow panicle; flower stalks jointed near the base of the flower; perianths 1-1.5 mm long, reddish to yellowish, the inner segments tightly enclosing the achenes, lacking a grain-like swelling.

Fruits: Achenes, golden brown, smooth, about 1.5 mm long.

Rumex aquaticus **L. var. *fenestratus* (Greene) Dorn** (*R. fenestratus* Greene, *R. occidentalis* S. Wats., *R. occidentalis* var. *labradoricus* [Rech. F.] Lepage)

western dock

HABITAT/RANGE:

Moist to wet meadows, tidal marshes or shorelines in the lowland, steppe and montane zones; frequent throughout BC, infrequent on the Queen Charlotte Islands; N to AK, YT and NT, E to NF and S to SD, UT, NM and CA.

DESCRIPTION:

General: Perennial herb from a strong taproot; stems usually erect, simple, (below the inflorescence), 50-150 cm tall, reddish, usually smooth.

Leaves: Basal leaves oblong-lanceolate to egg-shaped, usually heart-shaped at base, more-or-less crisp-margined, usually smooth, the blades 5-40 cm long, the stalks long; stem leaves alternate, few, much reduced upward.

Flowers: Inflorescence of numerous flowers in a large (20-50 cm long), narrow, compound panicle; flower stalks not jointed; perianths greenish, the outer segments 2-4 mm long, the inner segments 4-10 mm long, net-veined, becoming reddish, lacking a grain-like swelling.

Fruits: Achenes, chestnut brown, smooth, 2-4 mm long.

Notes: This species is closely related to *R. arcticus*.

Rumex arcticus **Trautv.**

arctic dock

HABITAT/RANGE:

Moist to wet meadows, streambanks and forest openings from the montane to alpine zones; rare in N BC; circumpolar, N to AK, YT and NT; N. Eurasia.

DESCRIPTION:

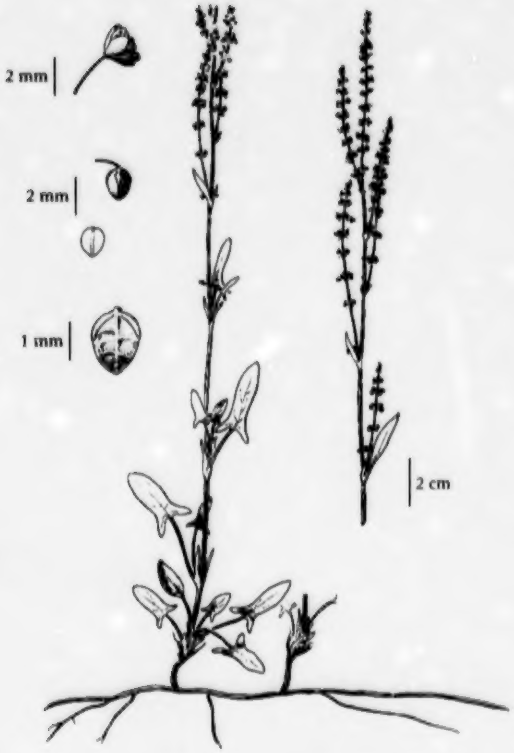
General: Perennial herb from a taproot or thickened rhizome; stems erect, solitary, simple below the inflorescence, 10-120 cm tall, often purplish-tinged.

Leaves: Basal leaves narrowly lanceolate to oblong, dark green and somewhat fleshy, smooth, the blades 6-30 cm long, somewhat wavy-margined, the stalks long; stem leaves alternate, much reduced upwards, nearly unstalked.

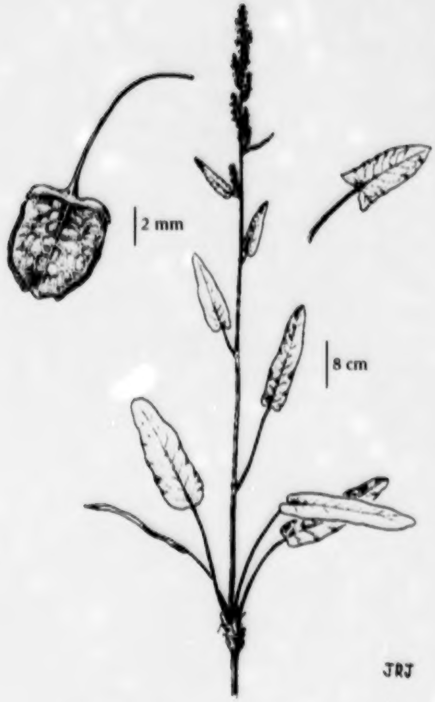
Flowers: Inflorescence of numerous flowers in simple (or short-branched) panicles, often purplish-tinged; perianths reddish, 2-3 mm long, the outer segments enlarging to 4-7 mm long, lacking grain-like swellings.

Fruits: Achenes, brown, shiny, 3-4 mm long.

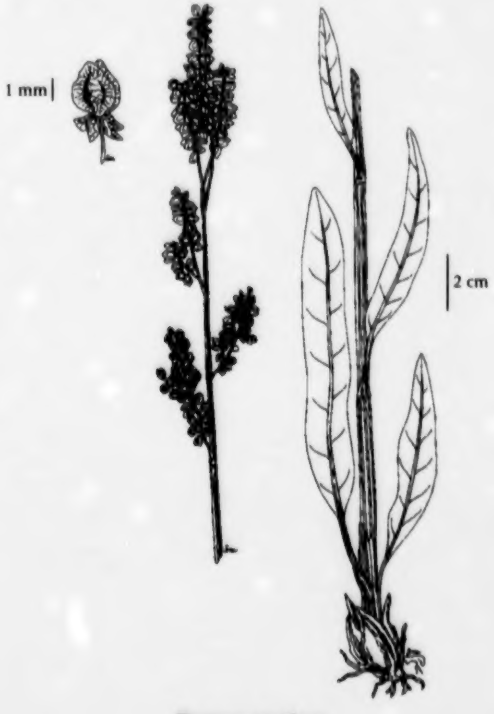
Notes: This species is closely related to *R. aquaticus*.


2 mm
2 mm
1 mm
2 cm

Rumex acetosella



Rumex aquaticus* var. *fenestratus



Rumex arcticus

Rumex conglomeratus **Murr.**

clustered dock

HABITAT/RANGE:

Mesic to dry roadsides, waste places, ditches and shorelines in the lowland zone; locally frequent on S Vancouver Island, the Gulf Islands and adjacent lower mainland, introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a strong taproot; stems erect, usually solitary, unbranched (below the inflorescence), 60-100 cm tall, smooth.

Leaves: Basal and lower stem leaves oblong to oblong-lanceolate, blunt to nearly heart-shaped at the base, smooth, the blades up to 15 cm long, the stalks long; stem leaves alternate, similar, reduced upwards.

Flowers: Inflorescence of many flowers in an open, much-branched, leafy-bracted panicle; flower stalks jointed below midlength; outer perianth segments 1-1.5 mm long, inner perianths segments 2-3 mm long, with oblong, grain-like swellings half the length of the segment.

Fruits: Achenes, smooth, about 1.5-2 mm long.

Rumex crispus **L.**

curled dock

HABITAT/RANGE:

Moist to mesic roadsides, ditches and disturbed sites; common in SW BC, frequent elsewhere in S BC south of 55°N; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a stout taproot; stems erect, solitary, unbranched (below the inflorescence), 50-100 cm tall, smooth.

Leaves: Basal leaves oblong-lanceolate, wedge-shaped to rounded at the base, strongly crisp-margined, the blades 10-30 cm long, the stalks long, pimply and finely hairy; stem leaves alternate, reduced upward, becoming short-stalked.

Flowers: Inflorescence of numerous flowers in a large, dense, usually greenish, elongate panicle; flower stalks jointed below midlength; outer perianth segments about 1.5 mm long, inner perianth segments mostly 4-6 mm long, each usually with an elliptic-oblong, net-veined, grain-like swelling.

Fruits: Achenes brown, smooth, shiny, about 2.5 mm long.

Rumex maritimus **L.**

golden dock

HABITAT/RANGE:

Moist to wet shorelines or marshes in the lowland, steppe and montane zones; frequent in S BC, disjunct in NW BC (Dease Lake) and NE BC (Peace River area); circumpolar, N to AK, YT and NT, E to NS and S to AK, NM and CA; Eurasia, S America.

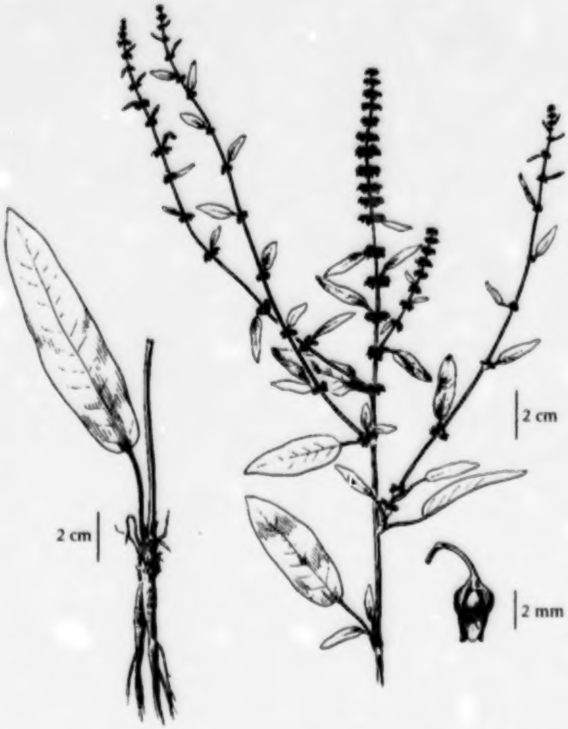
DESCRIPTION:

General: Annual or biennial herb from a taproot; stems erect, solitary, freely branched, somewhat pimply and finely hairy, 20-60 cm tall.

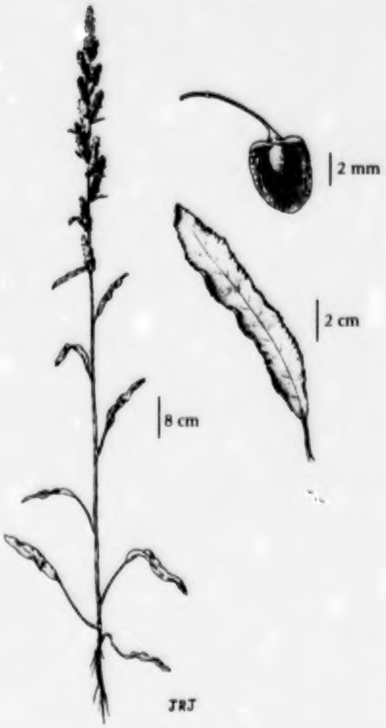
Leaves: Basal leaves reduced or lacking; stem leaves alternate, narrowly oblong to lanceolate, the margins somewhat crisped, usually slightly hairy beneath, the blades 4-10 cm long, reduced upward, the stalks short.

Flowers: Inflorescence of numerous flowers in tight whorls in a large and leafy panicle, golden brown at maturity; flower stalks jointed near the base; perianth segments 1-2 mm long at flowering, the outer segments enlarging to 3-7 mm long including the long-tapering, sharp tips, each segment with 2-4 slender teeth 2-5 mm long and also usually with a prominent, narrow, grain-like swelling.

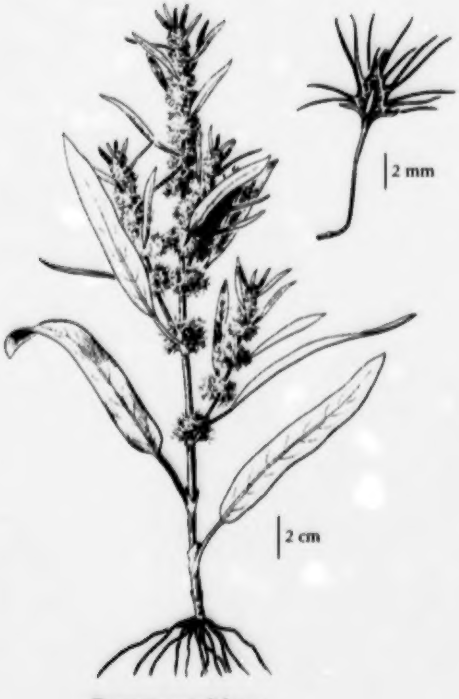
Fruits: Achenes brown, smooth, shiny, 1.5-2 mm long.



Rumex conglomeratus


2 mm
2 cm
8 cm
JRJ

Rumex crispus



Rumex maritimus

***Rumex obtusifolius* L.**

bitter dock

HABITAT/RANGE:

Mesic to dry roadsides and disturbed areas in the lowland zone; frequent in SW BC, infrequent in SC BC, rare in the Queen Charlotte Islands; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a large taproot; stems erect, solitary, simple (below the inflorescence), 60-120 cm tall, pimply and finely hairy.

Leaves: Basal leaves widely oblong or widely egg-shaped, heart-shaped at the base, the margins often crisped, the blades 10-30 cm long, the stalks long; stem leaves alternate, several, similar to basal leaves but reduced upward.

Flowers: Inflorescence of numerous flowers in a large, many-flowered panicle, 30-50 cm long; perianths greenish-brown, the segments with short, stout teeth on each margin; outer segments about 3 mm long, the ascending inner segments about 5 mm long, net-veined, the margins with 2-4 teeth and usually 1 of the 3 segments with a prominent, grain-like swelling.

Fruits: Achenes, brown, smooth, shiny, about 2 mm long.

***Rumex patientia* L.**

patience dock

HABITAT/RANGE:

Mesic to dry roadsides and disturbed sites in the lowland, steppe and montane zones; rare in S BC; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a strong taproot; stems erect, solitary to several, simple (below the inflorescence), 60-200 cm tall, smooth.

Leaves: Basal leaves widely to narrowly oblong or egg-shaped, more or less rounded at the base, the margins slightly wavy, the blades 15-30 cm long, the stalks long; stem leaves alternate, several, similar to basal leaves but reduced upward.

Flowers: Inflorescence of numerous flowers in a slender panicle; flower stalks jointed below midlength; outer perianth segments 1.5-2 mm long, ultimately reflexed, inner perianth segments mostly 5-9 mm long, broadly heart-shaped, net-veined, usually 1 segment with a small, grain-like swelling.

Fruits: Achenes, brown, smooth, 3-3.5 mm long.

***Rumex paucifolius* Nutt.**

alpine sorrel

HABITAT/RANGE:

Moist to wet forest openings and meadows in the subalpine and alpine zones; rare in SC; E to SW AB and S to CO and CA.

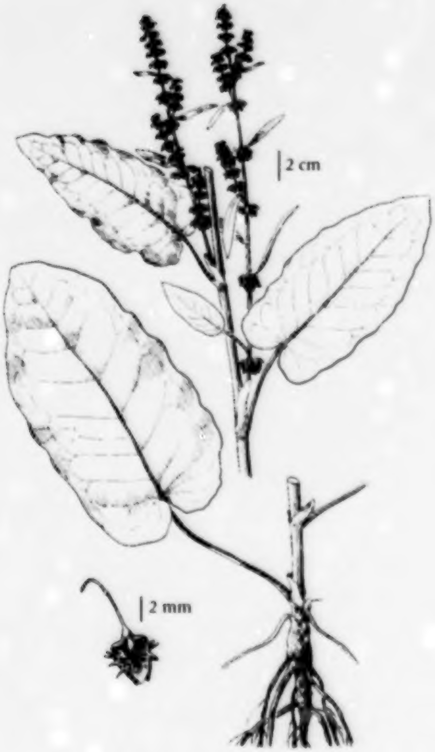
DESCRIPTION:

General: Perennial dioecious (male and female flowers on separate plants) herb from a thick taproot and short, usually branched crown; stems erect, solitary to several, unbranched (below the inflorescence), 20-60 cm tall, smooth.

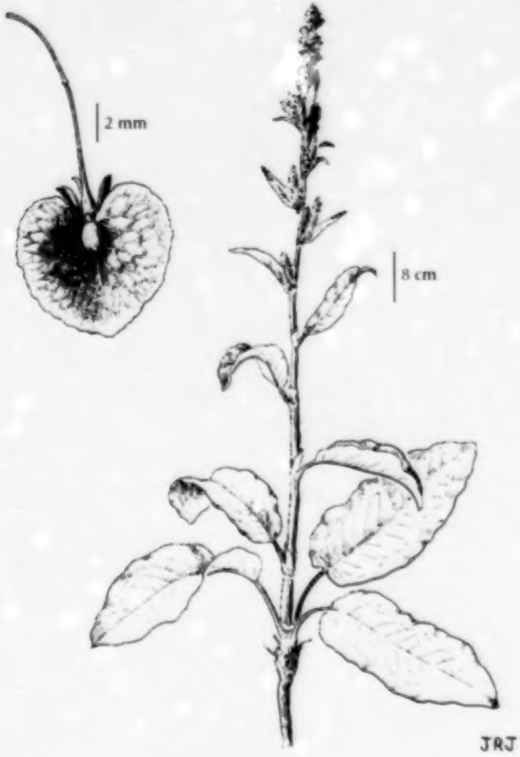
Leaves: Basal leaf blades elliptic to egg-shaped, tapered at both ends, smooth, the blades 4-10 cm long, the stalks long; stem leaves alternate, usually 2-3, greatly reduced, becoming unstalked.

Flowers: Inflorescence of numerous, unisexual flowers in a slender panicle; flower stalks jointed below midlength; perianths pale to deep red, the inner segments 3-4 mm long, entire, lacking grain-like swellings.

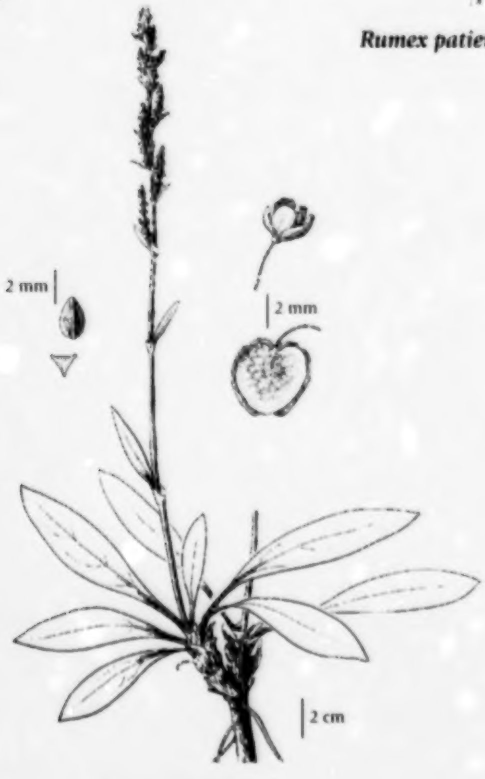
Fruits: Achenes, smooth, about 1.5 mm long.



Rumex obtusifolius



Rumex patientia



Rumex paucifolius

***Rumex salicifolius* Weinm.** (*R. mexicanus* Meisn., *R. salicifolius* ssp. *triangulivalvis* Danser var. *angustivalvis* Danser, *R. salicifolius* ssp. *triangulivalvis* var. *mexicanus* [Meisn.] C.L. Hitchc., *R. salicifolius* ssp. *triangulivalvis* var. *montigenitus* Jeps. and *R. triangulivalvis* [Danser] Rech. f. = ssp. *mexicanus*; *R. mexicanus* Meisn. var. *transitorius* [Rech. f.] Boivin and *R. transitorius* Rech. f. = var. *salicifolius*)

willow dock

HABITAT/RANGE:

Moist to mesic fields, roadsides, disturbed sites, beaches, shorelines and meadows in all vegetation zones; infrequent throughout BC, circumpolar, N to AK, YT and NT, E to NF, and S to OH, NB, TX, NM, CA and MX; Eurasia.

DESCRIPTION:

General: Perennial herb from a taproot; stems decumbent to erect, solitary to several, often branching from the lower nodes, 20-60 cm tall/long, smooth.

Leaves: Basal leaves few, narrowly oblong-lanceolate to oblong-elliptic, smooth, the blades 5-10 cm long, the stalks short to lacking; stem leaves alternate, similar, not strongly reduced upward.

Flowers: Inflorescence of numerous flowers in whorls in small to large panicles, with leafy bracts mainly near the base; perianths greenish-brown to deep pink, the outer segments 1-2 mm long, the inner segments 2.5-3 mm long, entire to somewhat toothed, grain-like swelling present or lacking.

Fruits: Achenes, smooth, 1.5-2.5 mm long.

Notes: Only two phases of this highly variable and poorly understood species are recognized in this treatment of BC material. See Hitchcock *et al.* (1964) for an alternative treatment.

1. Inner perianth segments thickened in texture; grain-like swellings, if present, usually covering less than 1/2 of the valve .... var. *mexicanus* (Meisn.) C. L. Hitchc.
1. Inner perianth segments thin in texture; grain-like swellings covering almost all of at least 1 valve .... var. *salicifolius*

PORTULACACEAE[12]

1. Leaf stalks persistent as slender spines on the stem-base or branches; leaves nearly circular in outline *Talinum*
1. Leaf stalks not persistent and spinose; leaves usually flattened.
    2. Ovaries more or less inferior, upper part of calyces circumscissile with the ovaries; flowers yellow; plants introduced annuals .... *Portulaca*
    2. Ovaries superior, often with valves, if circumscissile the calyces persistent in entirety; flowers not yellow; the plants native annuals or perennials.
        3. Flowers tightly clustered in head-like umbels or panicles; petals 4; stamens 3 .... *Calyptridium*
        3. Flowers solitary or in more or less open racemes or cymes; petals usually 5 or more; stamens 2-5.
            4. Flowers in leafy-bracteate racemes, lower ones in axils of scarcely reduced leaves; plants annuals with alternate leaves; capsules 3-valved, 15-40 seeded .... *Calandrinia*
            4. Flowers usually solitary or in minutely bracteate or ebracteate racemes or cymes; plants various; capsules either circumscissile or less than 15-seeded.
                5. Stems with numerous alternate or opposite leaves; basal leaf rosettes absent; ovules always 3 .... *Montia*
                5. Stems with a single pair of opposite leaves or 2-3 (5) semi-whorled leaves surrounding the stem, otherwise leafless; basal rosette of leaves usually present; ovules 3-6.
                    6. Capsules circumscissile near the base, the lid sometimes splitting upwards .... *Lewisia*
                    6. Capsules dehiscent downward by 3 valves .... *Claytonia*

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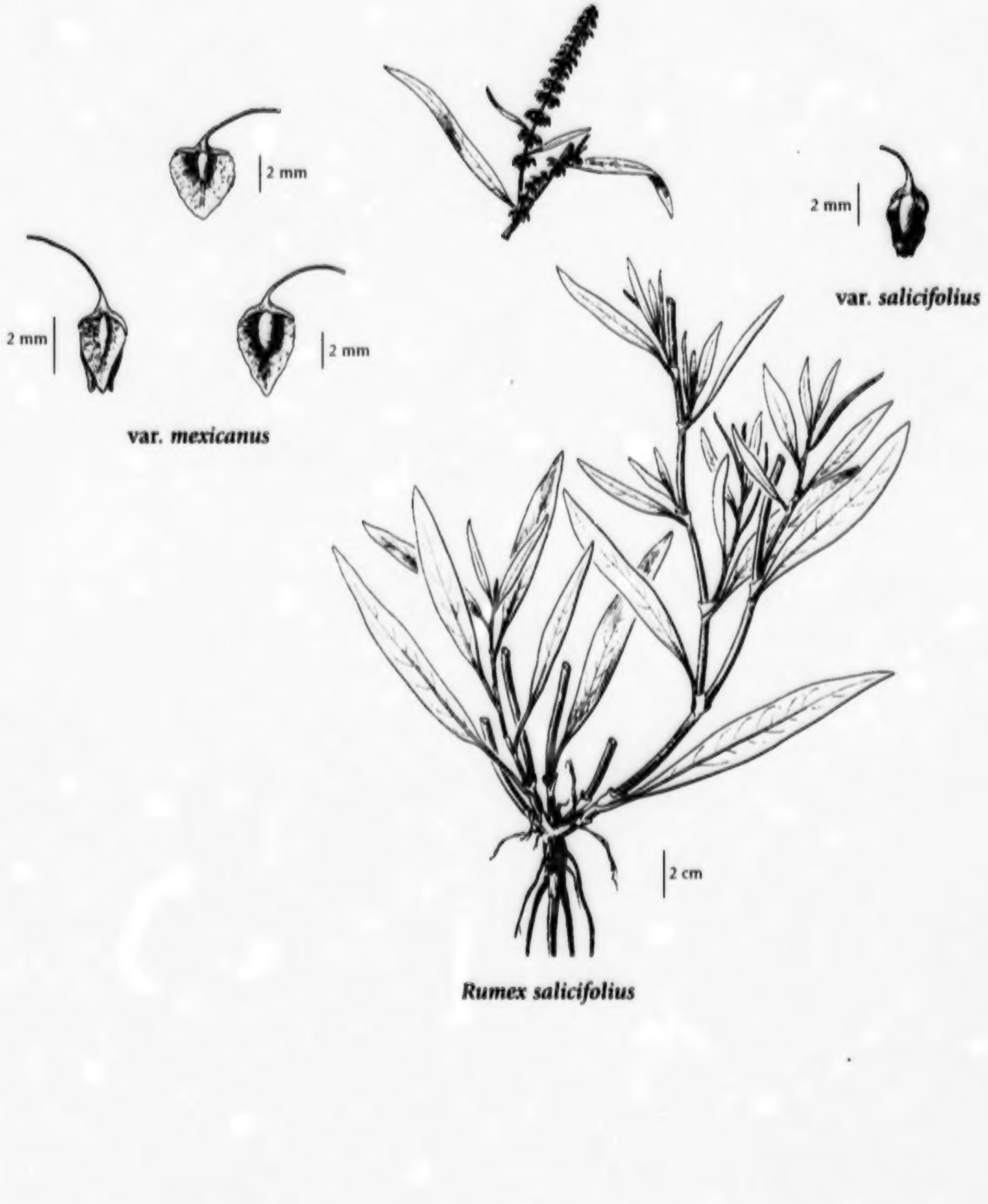
[12] Key adapted from Hitchcock and Cronquist (1973).


2 mm
2 mm
2 mm
var. mexicanus
2 mm
var. salicifolius
2 cm

Rumex salicifolius

CALANDRINIA

Calandrinia ciliata **(Ruiz & Pavon) DC. var. *menziesii* (Hook.) J.F. Macbr.**

desert rock purslane; red maids

HABITAT/RANGE:

Moist, gravelly or grassy vernal sites in the lowland zone; locally frequent on SE Vancouver Island and the Gulf Islands; S to AZ and CA; S America.

DESCRIPTION:

General: Annual herb from a taproot; stems decumbent to ascending, several, simple to branched from the base, smooth or fringed along the angles, 5-35 cm long.

Leaves: Basal leaves linear to oblanceolate, 1.5-7 cm long, 2-10 mm wide, narrowing to long, slender stalks, sparsely fringed; stem leaves similar, alternate, reduced upwards, becoming short-stalked above.

Flowers: Inflorescence of tightly clustered flowers in head-like umbels or panicles on short stalks; petals usually 5, white to deep pink or rose, 3-8 mm long; sepals 2, green and rounded at the tips to pointed and reddish; 3-8 mm long.

Fruits: Capsules, papery, splitting from the top into 3 segments subequal to the sepals; seeds black, elliptic, shiny, smooth, faintly veined (at 30x), 1.3-1.6 mm long.

CALYPTRIDIUM

Calyptridium umbellatum **(Torr.) Greene var. *caudiciferum* (A. Gray) Jepson** (*Cistanthe umbellata* [Torr.] Hershkovitz var. *caudicifera* [A. Gray] Kartesz & Gandhi, *Spraguea umbellata* Torr.)

Mount Hood pussypaws

HABITAT/RANGE:

Dry sandy sites and scree slopes from the montane to alpine zones; rare in SC BC, known only from Placer Mountain and Cathedral Provincial Park; S to CA.

DESCRIPTION:

General: Perennial herb from a branched or simple, thickened stem-base and a taproot; stems ascending to erect, numerous, spreading and forming mats up to 15 cm wide.

Leaves: Basal leaves forming rosettes, narrowly egg- to spoon-shaped on thick stalks, 1.5-5 cm long, smooth; stem leaves lacking.

Flowers: Inflorescence of dense terminal head-shaped clusters of many flowers on stalks 1-10 cm tall; flowering heads 4 cm wide; petals 4, pinkish to white, oblong, subequal to the sepals; sepals white to pinkish-bordered, round, 3-8 mm wide.

Fruits: Capsules, egg-shaped to oblong, flattened; seeds 5-11, black, shiny, 1 mm long.

CLAYTONIA[13]

Notes: The *Claytonia* treatment presented in this flora differs markedly from the traditional approach for the Pacific Northwest (Hitchcock *et al.* 1964, Welsh 1974, McNeill 1975, Douglas *et al.* 1990). This is due, in large part, to the more recent research by Miller (1978) and Chambers (1993).

1. Plants perennials, with a thick, taprooted stem-base or spherical tuber.
    2. Basal leaves numerous from a thick, taprooted stem-base .... *C. megarhiza*
    2. Basal leaves lacking or few from a spherical tuber.
        3. Petals white, often yellowish at the base; seeds reddish-brown; plants of extreme N BC .... *C. tuberosa*
        3. Petals white or more often pinkish or pink-veined; seeds black, shiny; plants of SC and SE BC .... *C. lanceolata*

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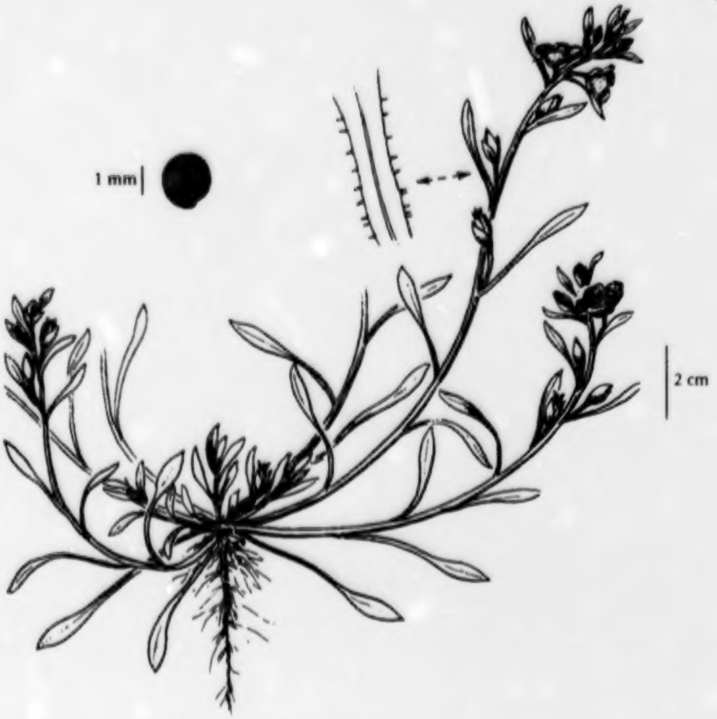
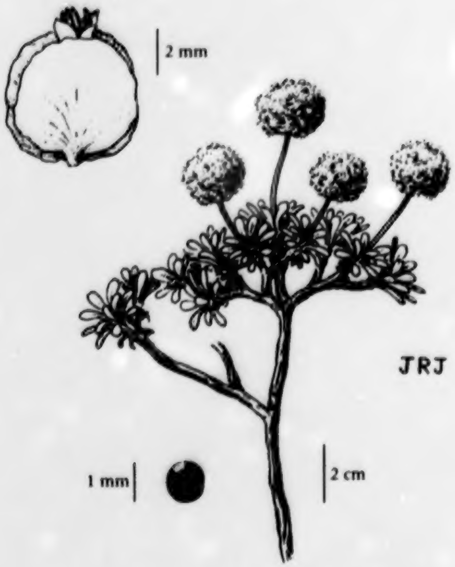
[13] Key adapted from Chambers (1993).



Calandrinia ciliata


2 mm
JRJ
1 mm
2 cm

Calyptridium umbellatum

1. Plants annuals or perennials from rhizomes or slender taproots.
   4. Plants perennials from long rhizomes; bracts lacking in the inflorescence.
      5. Plants from long slender rhizomes and stolons; basal leaf blades 0.3-2.5 cm wide; stem leaf blades less than 1 cm wide; plants of NW BC .... *C. sarmentosa*
      5. Plants from long, slender to thickened, often branched rhizomes, without stolons; basal leaf blades 2-7 cm wide; stem leaf blades more than 1 cm wide; plants of S BC .... *C. cordifolia*
   4. Plants annuals or shortly rhizomatous and more often persisting for more than one year (*C. sibirica*); bracts 1 per 1-4 flowers.
      6. Flowers 1-4 per bract; stem leaf pairs free (sometimes fused on 1 side in *C. washingtoniana*).
         7. Plants perennials, sometimes annuals; flowers usually 1-2 per bract; stem leaf pairs free; petals 6-12 mm long .... *C. sibirica*
         7. Plants annuals; flowers usually 2-4 per bract; stem leaf pairs sometimes fused on 1 side; petals 4-5 mm long .... *C. washingtoniana*
      6. Bracts usually one, subtending the lowest flower; stem leaf pairs usually fused on one or both margins, often forming a disk.
         8. Stem leaf pairs free or fused on one side less than half their length; seeds dull black, with small rounded swellings (at 20x magnification), the appendages brownish, fleshy or shrunken .... *C. exigua*
         8. Stem leaf pairs fused on both sides; seeds shiny black, smooth (at 20x magnification), the appendages white, fleshy.
            9. Basal leaf blades linear or narrowly oblanceolate, tapered gradually to the stalk .... *C. parviflora*
            9. Basal leaf blades elliptic to kidney-shaped or triangular, tapered abruptly to the stalk.
               10. Basal leaves usually many, prostrate to spreading, smaller inward; stem leaf pairs usually unequally fused; petals 2-3.5 mm long .... *C. rubra*
               10. Basal leaves few to many, spreading to erect, more or less equal in size; stem leaf pairs fused on both margins, forming a disk; petals 2-6 mm long .... *C. perfoliata*

***Claytonia cordifolia* S. Wats.** (*Montia cordifolia* [S. Wats.] Pax & K. Hoffm., *C. asarifolia auct. non* Bong.)
heart-leaved springbeauty; broad-leaved springbeauty

HABITAT/RANGE:

Wet streambanks, pond margins, seepage sites and meadows in the montane zone; locally frequent in SE BC, rare on Vancouver Island; S to W MT, UT and CA.

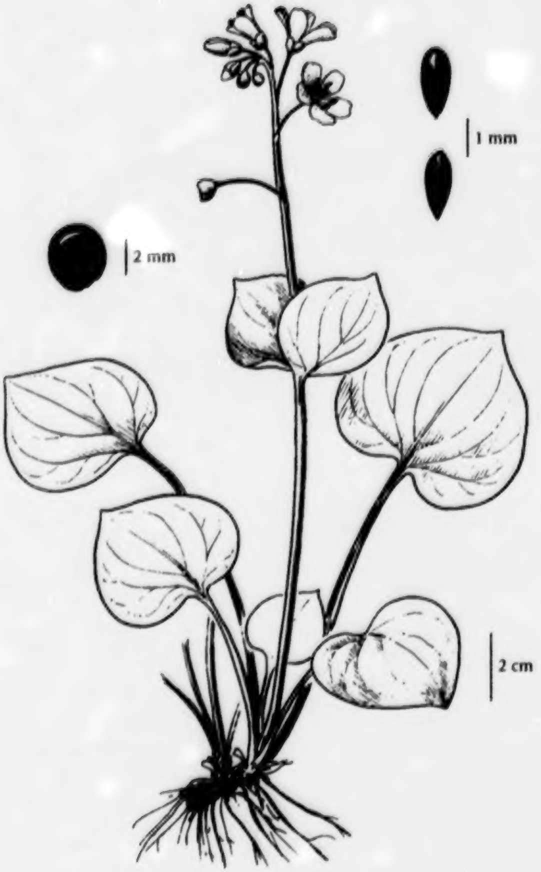
DESCRIPTION:

General: Perennial herb from a slender to thickened rhizome; stems erect, simple, single to several in clumps along the rhizome, 10-30 cm tall.

Leaves: Basal leaves several, the blades heart-shaped to triangular, 1-5 cm long, 1-9 cm wide, narrowing to stalks 2-3 times as long as the blade; stem leaves paired, opposite, free, lanceolate to egg-shaped, 1-5 cm wide.

Flowers: Inflorescence of loose, elongate racemes with 3-10 flowers on stout stalks 10-15 mm long, without bracts; petals 5, white, 8-13 mm long, sepals 2, 3-5 mm long.

Fruits: Capsules; seeds 3, round, black, shiny, 2 mm long.



Claytonia cordifolia

Claytonia exigua* T.& G. ssp. *exigua (*C. spathulata* Dougl. *ex* Hook., *Montia spathulata* [Dougl. *ex* Hook.] Howell)
pale springbeauty

HABITAT/RANGE:

Moist, open vernal sites in the lowland and montane zones; rare on SE Vancouver Island, the Gulf Islands and adjacent coast, also known from Hazelton; S to CA.

DESCRIPTION:

General: Annual herb from a slender taproot; stems erect, simple, bluish-green, 1-15 cm tall.

Leaves: Basal leaves numerous, linear, 2-12 cm long, 0.5-1.5 mm wide, blue-green; stem leaves paired, opposite, linear to linear-lanceolate, 0.5-4 cm long, free or fused on one side less than half their length, bluish-green.

Flowers: Inflorescence of stalked to unstalked racemes 5-20 mm long with 2-7 flowers on recurved stalks, the stalks 3-10 mm long, with one bract subtending the lowest flower; petals 5, white or pale pink, 2.5-4.5 mm long; sepals 2, 1-2 mm long.

Fruits: Capsules, 2-3 mm long; seeds 3, elliptic, dull black, 1-1.5 mm long, with small rounded swellings (at 20x magnification), the appendages brownish, fleshy or shrunken.

***Claytonia lanceolata* Pursh** (*C. caroliniana* Michx. var. *lanceolata* [Pursh] S. Wats, *C. lanceolata* var. *chrysantha* [Greene] C.L. Hitchc., *C. lanceolata* var. *pacifica* McNeill)
western springbeauty

HABITAT/RANGE:

Moist meadows, shrublands, grasslands and snowbed sites from the steppe to alpine zones; common in S BC (rare on Vancouver Island); E to SK and S to NM and CA.

DESCRIPTION:

General: Perennial herb from a spherical underground corm bearing fibrous roots; stems ascending to erect, simple, single to several, 5-25 cm tall.

Leaves: Basal leaves 1 or 2, elliptic to broadly oblanceolate, the blades 2-15 mm wide, up to 15 cm long including the threadlike underground stalk; stem leaves paired, opposite, free, usually unstalked, narrowly lanceolate to egg-shaped, 1.5-6 cm long, 5-20 mm wide, smooth.

Flowers: Inflorescence of loose racemes with 3-20 flowers on stalks 1-5 cm long, with one bract subtending the lowest flower; petals 5, white or pinkish or pink-veined, 5-12 mm long, joined at the base for 1-2 mm; sepals 2, 3-7 mm long.

Fruits: Capsules, egg-shaped, 4 mm long; seeds 3-6, round, black, shiny, 2-2.5 mm long.

Notes: Plants with stalked stem leaves from Vancouver Island and NW WA have been recognized as var. *pacifica*. Since plants with stalked stem leaves occur in populations of the species elsewhere in BC and WA this form does not appear significant. The yellow-flowered form (var. *chrysantha*), found just to the south of the BC border in NW WA was also shown to be synonymous with this species (Douglas and Taylor 1972).

Claytonia megarhiza* (A. Gray) Parry *ex* S. Wats. var. *megarhiza
alpine springbeauty

HABITAT/RANGE:

Dry gravelly slopes, rock outcrops and talus slopes in the alpine zone; rare in SE BC, known only from Goat Mountain; E to S AB and S to CO, UT, NM and NV; disjunct in NT.

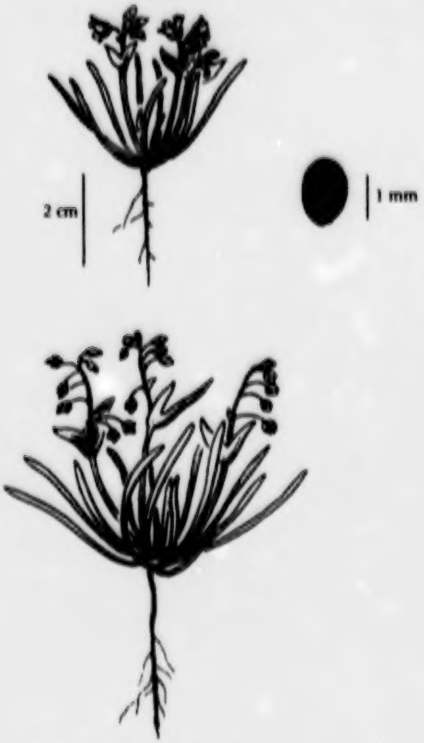
DESCRIPTION:

General: Perennial herb with a massive, more or less woody underground stock bearing thick-branched roots; stems erect, simple, single to several, 1-6 cm tall.

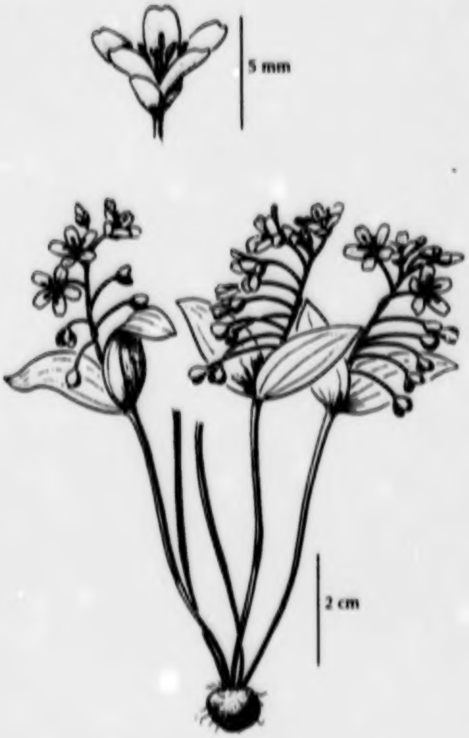
Leaves: Basal leaves numerous, forming rosettes, elliptic to egg-shaped, the blades 1-5 cm long, narrowing to a membranous-margined stalk 1-3 times as long as the blade; stem leaves paired, opposite, free, reduced, linear-oblanceolate, 1-3 cm long.

Flowers: Inflorescence of round-topped racemes with 2-9 flowers on stalks 5-40 mm long, bracts present on all flowers; petals white to pink or dark rose, 5-9 mm long, joined at the base; sepals 2, 3-8 mm long, turning reddish with age.

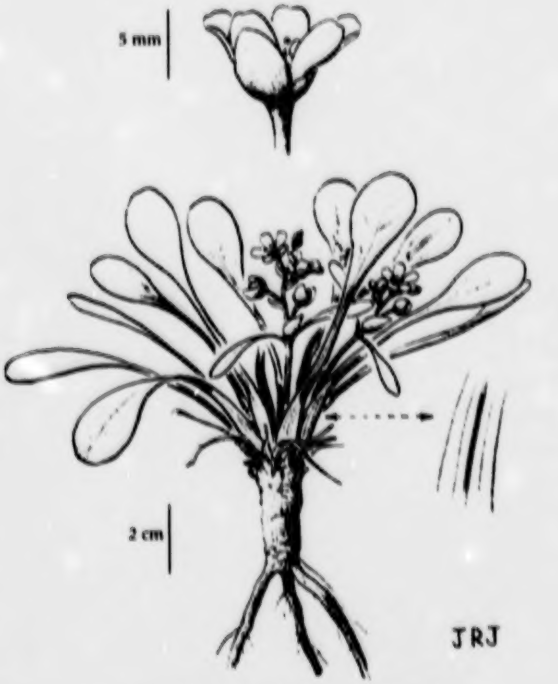
Fruits: Capsules, 3-valved, egg-shaped, 4-5 mm long; seeds 1-6, round, black, shining, 2-3 mm long.



Claytonia exigua ssp. *exigua*



Claytonia lanceolata



Claytonia megarhiza var. *megarhiza*

Claytonia parviflora **Dougl. *ex* Hook. ssp. *parviflora*** (*C. perfoliata* Donn *ex* Willd. var. *parviflora* [Dougl. *ex* Hook.] Torr., *Montia perfoliata* [Donn *ex* Willd.] Howell var. *parviflora* [Dougl. *ex Hook.*] Jepson)

streambank springbeauty

HABITAT/RANGE:

Moist to mesic vernal pools, rock outcrops, meadows and forests in the lowland and montane zones; infrequent in SW and SC BC; S to MT, CA and MX.

DESCRIPTION:

General: Annual herb from a slender taproot; stems ascending to erect, simple, several, 3-35 cm tall.

Leaves: Basal leaves linear to narrowly oblanceolate, the blades 1-18 cm long, tapered gradually to the stalk; stem leaves paired, opposite, fused on both margins, forming a disk less than 5 cm wide.

Flowers: Inflorescence of whorled racemes with 3-40 flowers on stalks 1-10 cm long or unstalked, with one bract subtending the lowest flower; petals white or pinkish, 2-6 mm long; sepals 1.5-4 mm long.

Fruits: Capsules; seeds 3, round to egg-shaped, black, shiny, smooth (at 20x magnification), the appendages white, fleshy, 1-2.3 mm long.

Notes: *Claytonia parviflora* (and *C. rubra*) were formerly treated in the Pacific Northwest by Hitchcock *et al.* (1964) and in BC by Douglas *et al.* (1990) as part of the natural variation of the *C. perfoliata* or *Montia perfoliata* complex. Recent studies by Miller (1978) and Chambers (1993) indicate that they should be treated as separate species.

Claytonia perfoliata **Donn *ex* Willd.** (*Montia perfoliata* [Donn *ex* Willd.] Howell)

miner's-lettuce

HABITAT/RANGE:

Moist, sandy vernal sites, meadows, thickets and forests in the lowland, steppe and montane zones; frequent in SW and SE BC, infrequent in SC BC; S to SD, MT, UT, AZ and MX, also known from AK.

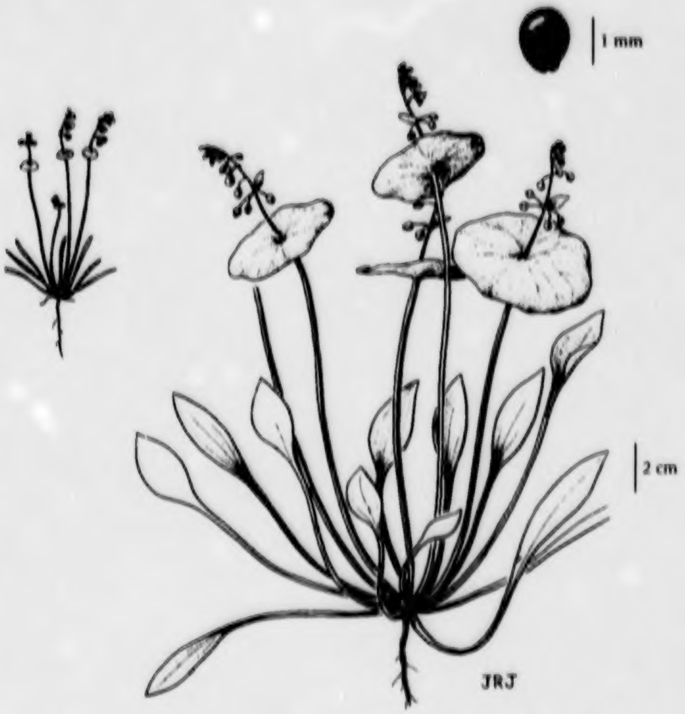
DESCRIPTION:

General: Annual herb from a slender taproot; stems ascending to erect, simple, several, 1-35 cm tall.

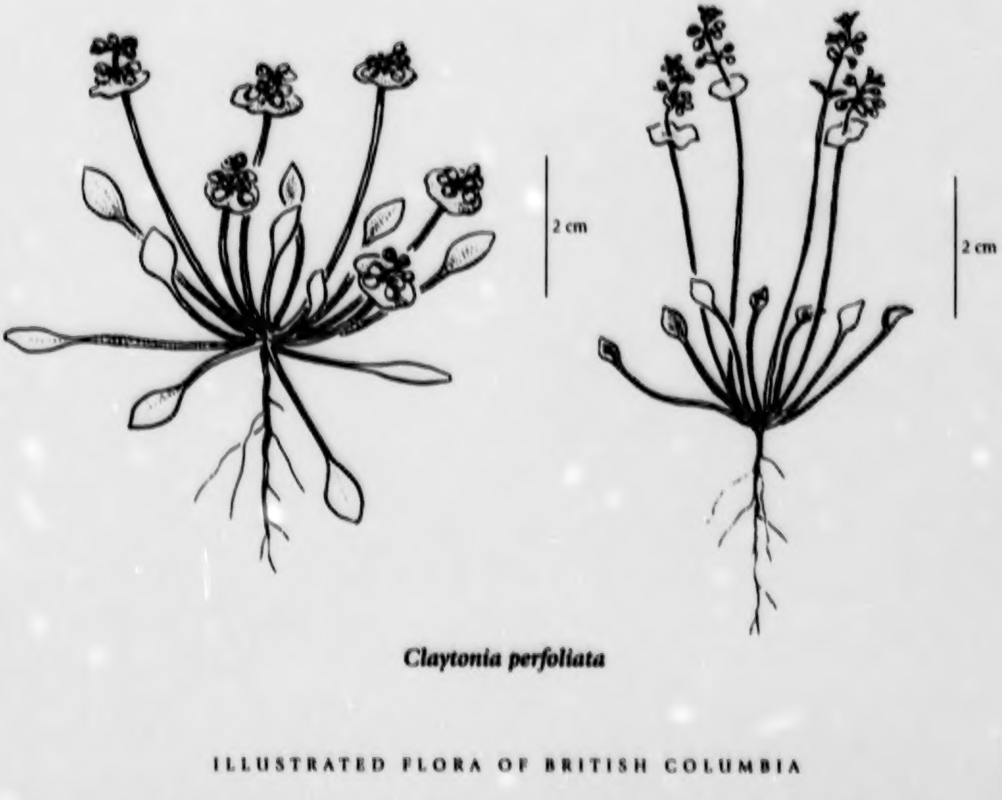
Leaves: Basal leaves few to many, spreading to erect, more or less equal in size, elliptic to round-deltate, the blades 0.5-4 cm long, tapered abruptly to the stalk, the stalks up to 20 cm long; stem leaves paired, opposite, fused on both margins, forming a disk less than 10 cm wide.

Flowers: Inflorescence of whorled racemes with 5-40 flowers on stalks 1-10 cm long or unstalked, with one bract subtending the lowest flower; petals 5, white or pinkish, 2-6 mm long; sepals 2, 1.5-5 mm long.

Fruits: Capsules; seeds 3, round to egg-shaped, black, shiny, smooth (at 20x magnification), the appendages white, fleshy, 1-2.7 mm long.



Claytonia parviflora ssp. *parviflora*



Claytonia perfoliata

***Claytonia rubra* (Howell) Tidestr.** (*C. perfoliata* var. *depressa* [A. Gray] van Poelln., *Montia parviflora* Howell ssp. *depressa* (A.Gray) Robins. = ssp. *depressa*).

redstem springbeauty

HABITAT/RANGE :

Moist to dry vernal pools, sand dunes, meadows, open forests and rock outcrops in the lowland, steppe and montane zones; rare on SE Vancouver Island, the Gulf Islands and the lower mainland (Boundary Bay), frequent in SC BC; S to SD, CO and CA.

DESCRIPTION:

General: Annual herb from a slender taproot; stems ascending to erect, simple, several, red or green, 1-15 cm tall.

Leaves: Basal leaves usually many, prostrate to spreading, smaller inward, elliptic, the blades 0.5-2 cm long, the bases tapered abruptly or squared off, the stalks 1-6 cm long; stem leaves paired, opposite, usually unequally fused, less than 4 cm wide.

Flowers: Inflorescence of whorled racemes with 3-30 unstalked or stalked flowers, with one bract subtending the lowest flower; flower stalks red or green; petals 5, white or pinkish, 2-3.5 mm long; sepals 2, 1.5-3 mm long.

Fruits: Capsules; seeds 3, round to egg-shaped, black, shiny, smooth (at 20x magnification), the appendages white, fleshy, 1.5-3 mm long.

Notes: See comments under *C. parviflora*. Two closely related subspecies occur in our region:

1. **Basal leaf blades widely elliptic to egg-shaped, the bases abruptly tapered; inflorescence more or less unstalked; only leaf stalks often red** .... **ssp. *depressa* (A. Gray) J. Miller & Chambers**

1. **Basal leaf blades diamond- or triangular-shaped, the bases squared off; inflorescence more or less stalked; plants and leaf stalks often red** .... **ssp. *rubra***

***Claytonia sarmentosa* C.A. Mey.** (*Montia sarmentosa* [C.A. Mey.] B.L. Robins.)

Alaska springbeauty

HABITAT/RANGE:

Moist to wet streambanks, mossy seepage and snowbed sites in the subalpine and alpine zones; infrequent in NW BC; amphiberingian, N to AK and YT; E Asia.

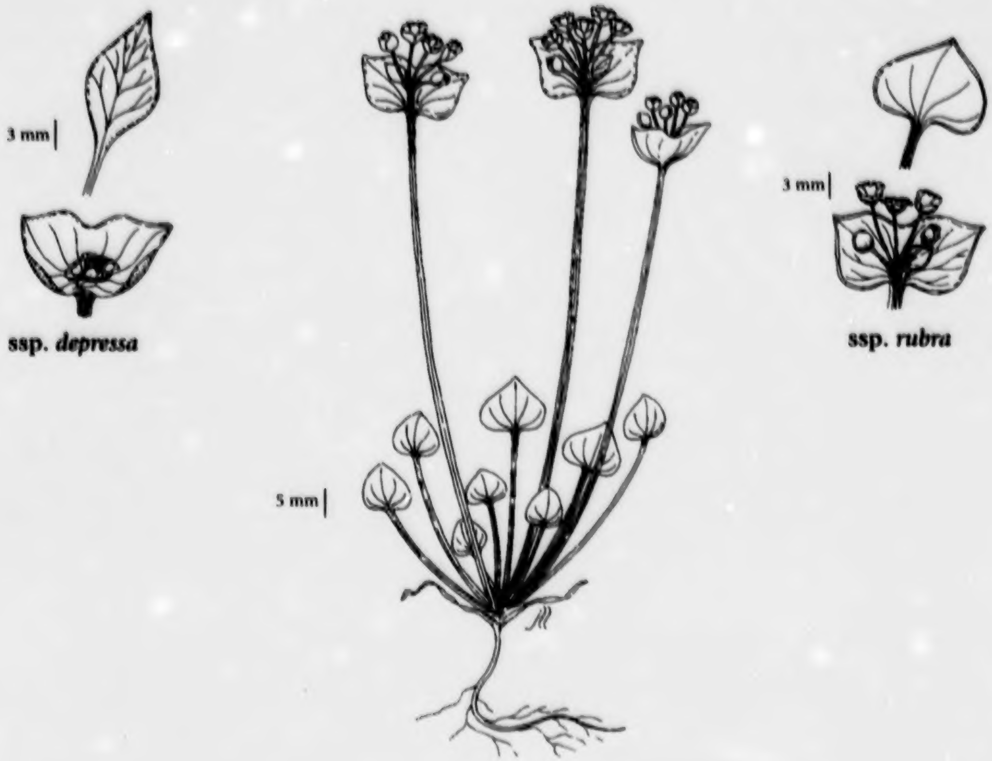
DESCRIPTION:

General: Perennial herb from elongate rhizomes and stolons; stems erect, simple, 1- to several from the tip of the rhizome, 5-23 cm tall.

Leaves: Basal leaves broadly elliptic to egg- or spoon-shaped, 1.5-11 cm long, 3-22 mm wide, tapering to the sheathing stalk; stem leaves paired, opposite, egg-shaped, twice as long as wide.

Flowers: Inflorescence of terminal or sometimes axillary racemes with 3-8 flowers on stalks 2-10 mm long, without bracts; petals 5, pink (fading white), 10-14 mm long; sepals 2, 4-6 mm long.

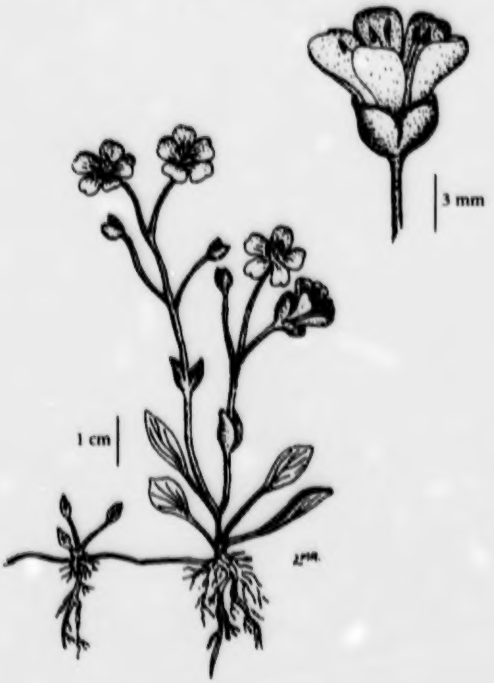
Fruits: Capsules, 3-5 mm long; seeds usually 2-6, black, shiny.



ssp. *depressa*

ssp. *rubra*

Claytonia rubra



Claytonia sarmentosa

***Claytonia sibirica* L.** (*Montia sibirica* [L.] Howell, *M. sibirica* var. *heterophylla* [T.& G.] B.L. Robins.)

Siberian miner's-lettuce

HABITAT/RANGE:

Moist streambanks, meadows, beaches, thickets and forests in the lowland, steppe and montane zones; common in and W of the Coast-Cascade Mountains S of 55°N, less frequent eastward; amphiberingian, S to MT, UT and CA; E Asia.

DESCRIPTION:

General: Perennial (sometimes annual) herb from a slender taproot or short rhizome; stems spreading to erect, few to several, 5-60 cm tall.

Leaves: Basal leaves numerous, the blades oblanceolate to egg-shaped, triangular or deltate, 1-8 cm long, tapering to a 2-22 cm stalk, some stalk bases sheathed or bulb-like; stem leaves paired, opposite, free, lanceolate to egg-shaped, unstalked, 1-8 cm long.

Flowers: Inflorescence of terminal and axillary racemes with 10-22 flowers on stalks 1-5 cm long, nodding in bud but spreading in flower, with 1 bract per 1-2 flowers; petals 5, white or pink (fading to white), 6-12 mm long; sepals 2, 3-6 mm long.

Fruits: Capsules, 2.5-3.5 mm long; seeds 1, sometimes 3, round to elliptic, black, shiny or dull, 1.5-2 mm long.

Notes: A highly variable species sometimes confused with *C. cordifolia*.

***Claytonia tuberosa* Pallas *ex* Willd.** (*C. caroliniana* Michx. var. *tuberosa* [Pallas. *ex* Willd.] Boivin)

tuberous springbeauty

HABITAT/RANGE:

Moist sites in the subalpine and alpine zones; rare in N BC; amphiberingian, N to AK and S YT; E Asia.

DESCRIPTION:

General: Perennial herb from a more or less spherical underground corm bearing fibrous roots, the corm 1-1.5 cm wide; stems erect, simple, solitary, whitish, slender below ground, 4-15 cm tall.

Leaves: Basal leaves 1-2 arising from the corm, elliptic to oblong, 2-6 cm long, 0.4-0.8 cm wide; stem leaves narrowly elliptic to oblanceolate or narrowly oblong, 1.5-6 cm long.

Flowers: Inflorescence a round-topped raceme with 3-8 flowers on stalks 5-28 mm long, with one bract subtending the lowermost flower; petals white or pink, fused at the base, 9-15 mm long; sepals 4-7 mm long.

Fruits: Capsules, 4-6 mm long; seeds 2-6, reddish-brown, 2 mm long.

***Claytonia washingtoniana* (Suksd.) Suksd.**

Washington springbeauty

HABITAT/RANGE:

Moist to mesic mossy rock outcrops and forests in the lowland and montane zones; rare in SW BC; S to CO and CA.

DESCRIPTION:

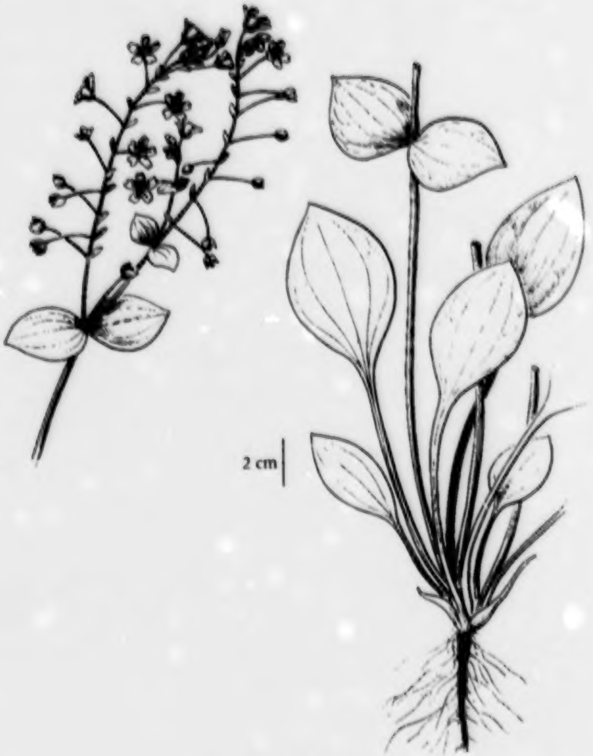
General: Annual herb from a slender taproot or short rhizome; stems spreading to erect, few to several from the root crown, 5-40 cm tall.

Leaves: Basal leaves numerous, the blades egg-shaped to deltoid, 1-5 cm long, tapering to a 2-35 cm stalk; stem leaves paired, free or sometimes fused below on one side, more or less round to egg-shaped, unstalked, 1-4 cm long.

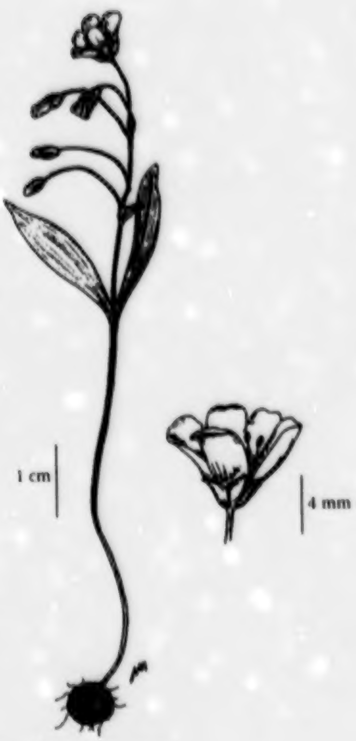
Flowers: Inflorescence of terminal and axillary racemes with 5-25 flowers on stalks 1-5 cm long, nodding in bud but spreading in flower, with bracts 1 per 2-4 flowers; petals white or pink (fading to white), 4-5 mm long; sepals 2.5-4 mm long.

Fruits: Capsules, 2.5-3.5 mm long; seeds 1, elliptic, black, shiny or dull, 1.5-2 mm long.

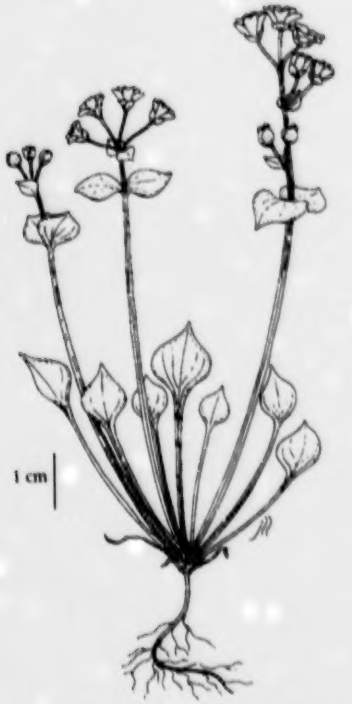
Notes: This species is considered to be of hybrid origin between *C. sibirica* and *C. perfoliata*.



Claytonia sibirica



Claytonia tuberosa



Claytonia washingtoniana

LEWISIA[14]

1. Plants with round or egg-shaped corms; stem leaves 2-3 (5), semi-whorled .... *L. triphylla*
1. Plants with large, fleshy taproots; stem leaves reduced and bractlike.
    2. Sepals 5-9, rarely 4, overlapping; flowers 1 per stalk .... *L. rediviva*
    2. Sepals 2; flowers 2- to several per stalk (1 per stalk in *L. pygmaea*).
        3. Flowering stems usually less than 10 cm long, 1 flower per stalk, with a pair of opposite bracts at or below midlength .... *L. pygmaea*
        3. Flowering stems 10-20 cm long, rarely less, 2- to several flowers per stalk, the bracts alternate or absent.
            4. Petals 5-13 mm long; stamens 5-6; leaves 3-8 mm wide .... *L. columbiana*
            4. Petals 25-40 mm long; stamens 12-25; leaves usually over 10 mm wide .... *L. tweedyi*

Lewisia columbiana* (Howell) B.L. Robins. var. *columbiana
Columbia lewisia

HABITAT/RANGE:

Mesic to dry gravelly or rocky slopes and rock outcrops from the montane to alpine zones; infrequent on S Vancouver Island and the Cascade Mountains; S to OR.

DESCRIPTION:

General: Perennial herb from a large, branched, fleshy root and simple stem-base; stems erect, several, branched, 10-30 cm tall.

Leaves: Basal leaves numerous, linear-oblanceolate to narrowly spoon-shaped, 2-10 cm long, 3-8 mm wide; stem leaves alternate, bractlike, entire to gland-toothed, 2-3 cm long, reduced above.

Flowers: Inflorescence an open, branched, panicle with many flowers on stalks 1-2 cm long; floral bracts glandular-toothed, petals 7-9 (rarely 11), white with pink veins to rose, egg-shaped, 5-13 mm long; sepals 2, glandular-toothed; stamens 5-6.

Fruits: Capsules, egg-shaped; seeds usually 3 (1-5), deep brown-red to black, shiny, 1.5-2 mm long.

Lewisia pygmaea* (A. Gray) B.L. Robins. var. *pygmaea
alpine lewisia

HABITAT/RANGE:

Moist to mesic rocky slopes and sandy or gravelly meadows from the montane to alpine zones; infrequent in S BC; S to MT, NM, AZ and CA, disjunct in YT.

DESCRIPTION:

General: Perennial herb from a thick, branched or simple taproot and thick stem-base; stems ascending to erect, solitary to several, simple, 1.5-6 cm tall.

Leaves: Basal leaves few to many, linear to lanceolate, 2-6 cm long, 1-3 mm wide; stem leaves opposite, bract-like, borne at or below midlength.

Flowers: Inflorescence of solitary flowers on stalks 1-8 cm long; floral bracts lacking; petals 6-9, white to pink, egg-shaped to oblong, 6-17 mm long, usually glandular-bristly; sepals 2, 2-5 mm long, jagged or toothed; stamens 4-12.

Fruits: Capsules, 3-6 mm long; seeds 15 or more, dark brown, shiny, 1-1.2 mm long.

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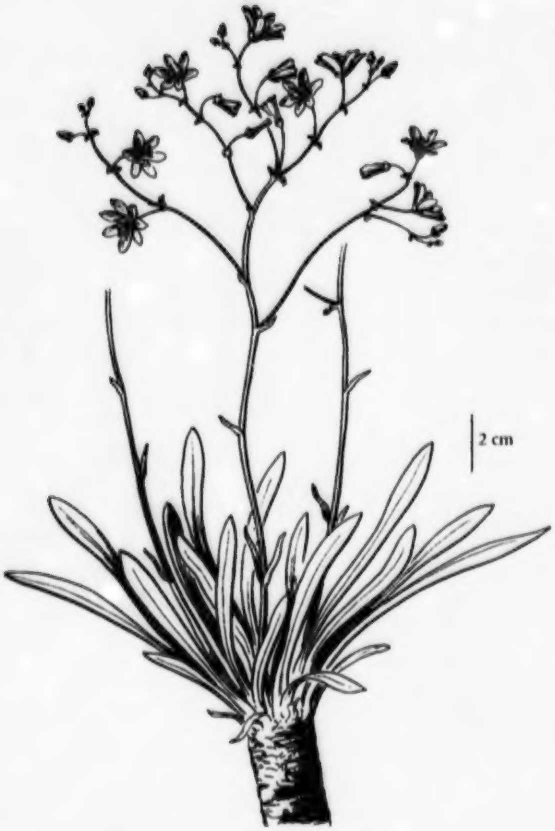
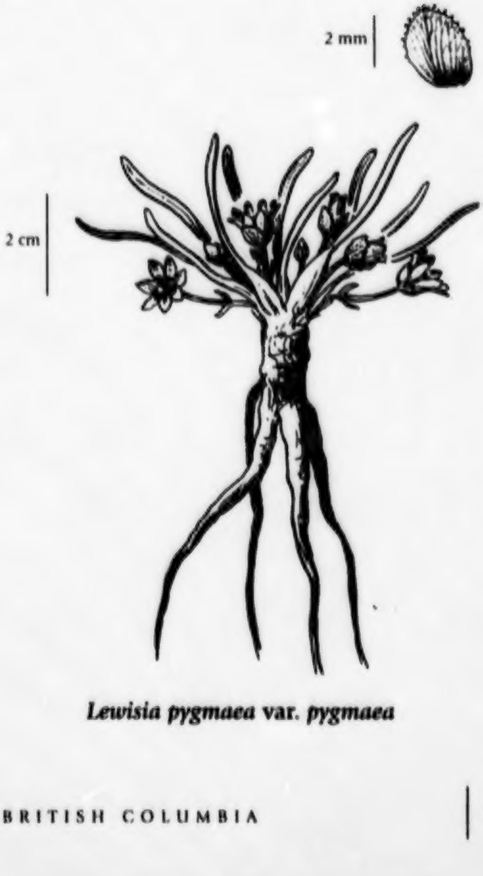
[14] Key adapted from Hitchcock and Cronquist (1973).



Lewisia columbiana var. *columbiana*



Lewisia pygmaea var. *pygmaea*

Lewisia rediviva **Pursh**

bitterroot

HABITAT/RANGE:

Dry grasslands, shrublands and open forests in the steppe and lower montane zones; locally frequent in SC BC, rare in SE BC; S to MT, CO, AZ and CA.

DESCRIPTION:

General: Perennial herb from a thick branched taproot and a short, simple or branched stem-base; stems spreading to erect, few, simple, 1-3 cm tall.

Leaves: Basal leaves numerous, 1.5-5 cm long, linear to club-shaped, round in cross section, with a wide, transparent base, beginning to wither and dry by flowering time; stem leaves lacking.

Flowers: Inflorescence of solitary flowers on stalks 0.5-1.5 cm long; floral bracts 5-6, whorled, linear, 0.5-1 cm long, chaffy; petals 12-18, white to deep pink, narrowly oblong, 1.8-3.5 cm long; sepals (4) 5-9, unequal, 10-25 mm long, stamens 30-50.

Fruits: Capsules; seeds 6-20, rounded, dark brown, shiny, 2 mm long.

Lewisia triphylla **(S. Wats.) B.L. Robins.**

three-leaved lewisia

HABITAT/RANGE:

Moist gravelly slopes, meadows, open forests and sandy snowbed sites from the montane to alpine zones; rare on Vancouver Island and SE BC; S to MT, CO and CA.

DESCRIPTION:

General: Perennial herb from a shallow, roundish, bulb-like corm 3-9 mm wide; stems ascending to erect, solitary or several, branched, threadlike below ground, 3-10 cm long.

Leaves: Basal leaves narrowly linear, 2-5 cm long, soon deciduous or sometimes lacking; stem leaves 2-3 (5) semi-whorled, linear, 1-4.5 cm long.

Flowers: Inflorescence simple to compound and flat-topped with 1-25 flowers on stalks 5-15 mm long; floral bracts solitary at the base of most stalks; petals 5-9, white and pink-veined to pink, oblanceolate, 4-7 mm long; sepals 2, oval, 2-3 mm long lengthening to 4.5 mm in fruit; stamens 3-5.

Fruits: Capsules, egg-shaped, membranous; seeds 10-20, dark brown, smooth, shiny, 1 mm long.

Lewisia tweedyi **(A. Gray) B.L. Robins.** (*Cistanthe tweedyi* [A. Gray] Hershkovitz)

Tweedy's lewisia

HABITAT/RANGE:

Dry talus slopes and cliffs in the upper montane zone; rare in SC BC, known only from Manning Provincial Park; S to C WA.

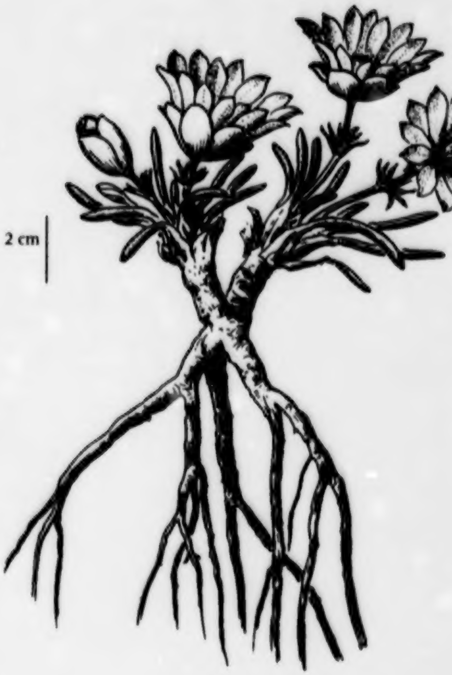
DESCRIPTION:

General: Perennial herb from a large, thick, reddish taproot with a branched crown; stems ascending to erect, several, branched, 10-20 cm tall.

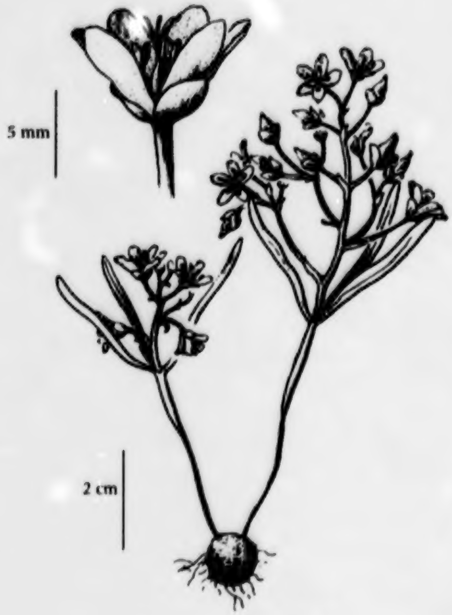
Leaves: Basal leaves oblong-oblanceolate or widely egg-shaped, 10-20 cm long, 1-5 cm wide, narrowing to a thick stalk about 5 cm long; stem leaves lacking or with 1 or 2 reduced leaves below.

Flowers: Inflorescence a loose, terminal raceme with 2-5 flowers on stalks 2-5 cm long; floral bracts linear, few; petals 7-9, salmon-coloured, yellowish-pink, sometimes white, egg-shaped, 2.5-4 cm long; sepals 2, 0.8-1 cm long; stamens 12-25.

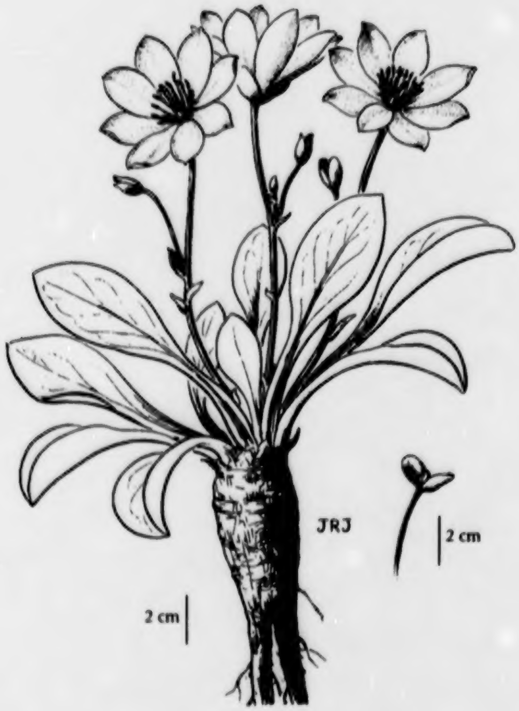
Fruits: Capsules, opening by 3 or 4 valves; seeds numerous, deep brownish-red, warty, 2 mm long.



Lewisia rediviva



Lewisia triphylla



Lewisia tweedyi

MONTIA[15]

1. Stem leaves opposite; seeds rounded on the back.
   2. Plants perennials, stoloniferous; petals 5, equal, more or less free at the base; stamens 5 .... *M. chamissoi*
   2. Plants annuals, not stoloniferous; petals 2, or if 5 then 3 of them smaller, fused for about 1/3 their length; stamens 3 .... *M. fontana*
1. Stem leaves alternate; seeds usually flattened or keeled on the back.
   3. Plants perennials; petals 6-15 mm long; stamens 5; styles at least twice as long as ovaries; bracts solitary or numerous.
      4. Lower stem leaves linear to narrowly spoon-shaped; bracts solitary at base of inflorescence; plants rare in extreme NW BC .... *M. bostockii*
      4. Lower stem leaves lanceolate to egg-shaped or round; bracts numerous; plants common in S BC .... *M. parvifolia*
   3. Plants annuals; petals 0.5-6 mm long; stamens 2 or 3, (5 in *M. diffusa*); styles usually twice as long as ovaries; bracts solitary.
      5. Leaves distinctly and more or less abruptly stalked, the blades lanceolate to suborbicular; stamens 5 .... *M. diffusa*
      5. Leaves without a distinct stalk, linear to linear-spatulate; stamens 2 or 3.
         6. Flowers clustered in the axils of chaffy bracts opposite the leaves, much exceeded by the subtending leaves, the bracts often fused with the leaves and resembling sheathing stipules; sepals 0.4-1.2 mm long, longer than the petals .... *M. howellii*
         6. Flowers evidently racemose, generally terminal on the stems or in axils of uppermost leaves, usually exceeding the subtending leaves; sepals 1.2-6 mm long, evidently shorter than the petals.
            7. Sepals about 2 mm long; leaves about 0.5 mm wide; plants 2-8 cm tall; infrequent on SE Vancouver Island, the Gulf Islands and SC BC .... *M. dichotoma*
            7. Sepals (2.5) 3-6 mm long; leaves 1-3 mm wide; plants (3) 5-20 cm tall; common in S BC .... *M. linearis*

***Montia bostockii* (Porsild) Welsh** (*Claytonia bostockii* Porsild)

Bostock's montia

HABITAT/RANGE:

Moist meadows in the subalpine and alpine zones; rare in NW BC, known only from the Haines Rd.; N to E AK and SW YT.

DESCRIPTION:

General: Perennial herb from slender rhizomes and stolons; stems erect, solitary, simple from the nodes of the rhizomes, 6-12 cm tall.

Leaves: Basal leaves linear-oblanceolate, 1-3 cm long, 1-3 mm wide, not sheathing; stem leaves 2-3, linear or narrowly spoon-shaped, alternate, 1-3 cm long, 1-3 mm wide.

Flowers: Inflorescence of terminal, round-topped clusters with 2-6 flowers on stalks 5-25 mm long, erect in flower but nodding in bud; floral bract solitary at the base of the lowest stalk; petals 5, white with pink veins, 10-12 mm long; sepals 2, 3.5-6 mm long; stamens 5.

Fruits: Capsules 3-valved; seeds black.

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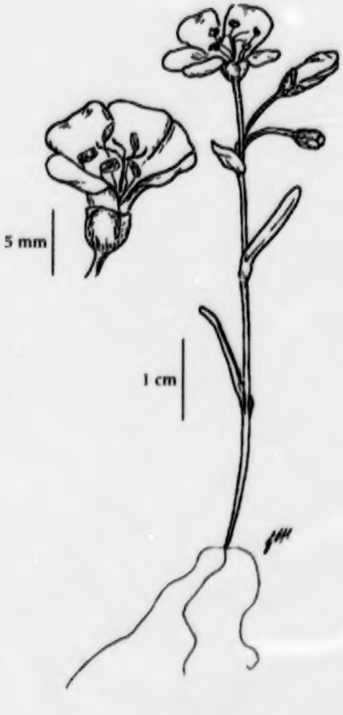
[15] Key adapted from McNeill (1975).



Montia bostockii

Montia chamissoi **(Ledeb. *ex* Spreng.) Greene (*Claytonia chamissoi* Ledeb. *ex* Spreng.)**

Chamisso's montia

HABITAT/RANGE:

Bogs, marshes and streambanks in the lowland and montane zones; rare in coastal BC; N to AK, E to MB and S to NM and CA, disjunct in IA.

DESCRIPTION:

General: Perennial herb from slender rhizomes and stolons, which produce bulblet-like offsets; stems erect, solitary, simple to branched, 5-20 cm tall.

Leaves: Basal leaves reduced or lacking; stem leaves oblong to elliptic, tapering to the stalk, 4-7, opposite, 1-5 cm long, 0.2-1.8 cm wide.

Flowers: Inflorescence of erect, terminal and axillary racemes with several flowers (which are sometimes replaced by bulblets) on stalks 8-30 mm long, erect in flower but nodding in bud; floral bract solitary at the base of the lowest stalk; petals 5, white or pink, 5-8 mm long; sepals 2, 2-3 mm long; stamens usually 5.

Fruits: Capsules 2-3 mm long; seeds black, shiny, densely pimpled, oblong, 1-3 mm long, appendage flattened.

Montia dichotoma **(Nutt.) Howell**

dwarf montia

HABITAT/RANGE:

Moist seepage sites in the lowland zone; infrequent on SE Vancouver Island, the Gulf Islands, infrequent in SC BC; S to ID, MT and CA.

DESCRIPTION:

General: Annual herb from a fibrous root; stems ascending to erect, 1- to several, branching from the base, 2-5 (8) cm tall.

Leaves: Basal leaves lacking; stem leaves linear, alternate, 6-20 mm long, 0.4-0.6 mm wide.

Flowers: Inflorescence of small axillary racemes with 4-12 flowers on recurved stalks 2-4 mm long; petals 5, white, 1.5-2.5 mm long; sepals 2, 1.5-2.5 mm long; stamens usually 3.

Fruits: Capsules, egg-shaped, 1.4-1.8 mm long; seeds usually 3, black, shiny, smooth, 0.8-1.2 mm long, appendage lacking.

Montia diffusa **(Nutt.) Greene**

branching montia

HABITAT/RANGE:

Moist forests in the lowland and lower montane zones; rare on S Vancouver Island and the adjacent coast; S to CA.

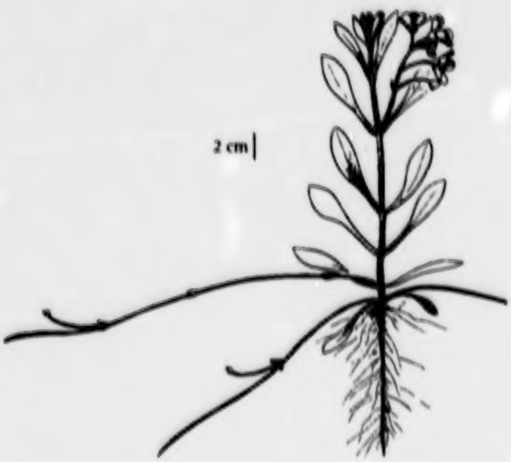
DESCRIPTION:

General: Annual herb from a slender, branched taproot; stems prostrate to erect, several, branched, 15-20 cm tall.

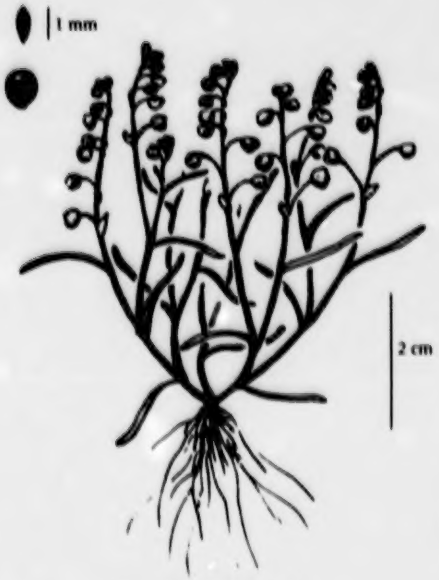
Leaves: Basal leaves few, lance- to diamond-shaped or rounded, 1-2.5 cm long, nearly as wide, narrowing to a stalk 2 to 4 times as long; stem leaves narrowly diamond-shaped, alternate, lower ones up to 5 cm long, including the stalk, long-stalked below, short-stalked above.

Flowers: Inflorescence of axillary or terminal panicles with several flowers, the lower 1 or 2 often from the axil of the leafy bract; petals 5, white or pale pink, 3-4 mm long; sepals 2, unequal, egg-shaped, 2-3 mm long; stamens 5.

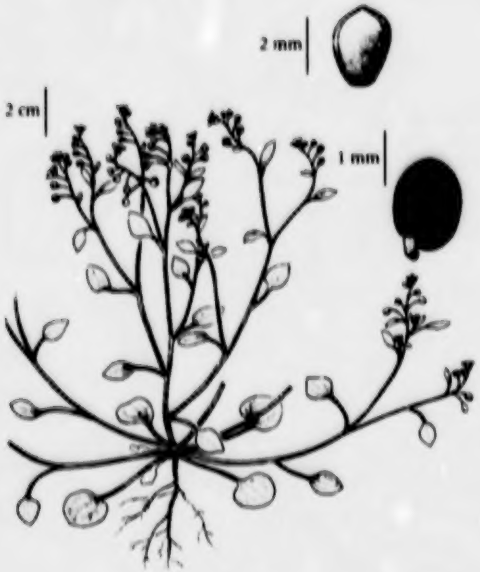
Fruits: Capsules, egg-shaped, 2.4-3.2 mm long, pointed; seeds usually 2-3, black, finely pimpled, 1.2-1.5 mm long, appendage protruding.



Montia chamissoi



Montia dichotoma



Montia diffusa

***Montia fontana* L.** (*M. fontana* ssp. *amporitana* Sennen, *M. fontana* ssp. *variabilis* Walt., *M. fontana* var. *tenerrima* [A. Gray] Fern. & Wieg., *M. lamprosperma* Cham.)

blinks; water chickweed

HABITAT/RANGE:

Wet meadows or shallow water in the lowland and montane zones; infrequent in NW and SW, rare in SC BC; circumpolar, N to AK, YT and NT, E to NF and S to ME, ID, NV and CA; Greenland, Iceland, Eurasia.

DESCRIPTION:

General: Annual herb from a slender taproot; stems decumbent to ascending, several, freely branching but tending to root at the nodes and so may persist from 1 year to the next, 3-20 cm long.

Leaves: Basal leaves lacking; stem leaves linear to broadly oblanceolate, opposite, 4-15 mm long, 1-7 mm wide, tapering to short stalks or unstalked.

Flowers: Inflorescence of loose, terminal racemes with 3-7 flowers on slender, recurved stalks 3-10 (20) mm long; corollas white, 1-2 mm long, fused about 1/2 their length, 5-lobed, the lobes usually unequal; sepals 2, round, 1-1.5 mm long; stamens 3, joined to the corolla tubes.

Fruits: Capsules, egg-shaped, flattened, 1.5 mm long; seeds black, round, 0.7-1.2 mm long, with numerous small projections, appendage round or flat.

Notes: Recognition of infraspecific taxa within this variable species complex does not appear warranted at this time (McNeill 1975).

***Montia howellii* S. Wats.**

Howell's montia

HABITAT/RANGE:

Moist vernal pools and seepage sites in the lowland zone; infrequent on Vancouver Island, the Gulf Islands and lower Fraser River delta; S to NW CA.

DESCRIPTION:

General: Annual herb from a fibrous root; stems decumbent to erect, several, freely branching but tending to root at the nodes, 2-6 cm long.

Leaves: Basal leaves lacking; stem leaves several, linear to more or less oblanceolate, alternate, 5-25 mm long, 0.5-1.5 mm wide.

Flowers: Inflorescence of axillary clusters of 3-5 flowers from the axils of small membranous bracts opposite the leaves (the bracts often joined with the leaf base resembling a sheathing stipule), on recurved stalks 1-5 mm long; petals 2-5 (or lacking), white, 0.4-0.7 mm long; sepals 2, widely egg-shaped, 0.8-1.5 mm long; stamens 2 or 3.

Fruits: Capsules, 3-valved; seeds 2-3, black, shiny, lens-shaped, 0.7-0.9 mm long.

***Montia linearis* (Dougl. *ex* Hook.) Greene**

narrow-leaved montia

HABITAT/RANGE:

Moist to dry fields, grasslands and rocky slopes in the lowland, steppe and lower montane zones; frequent in S BC, rare northward to 55°N; E to SW SK and S to MT, UT and CA.

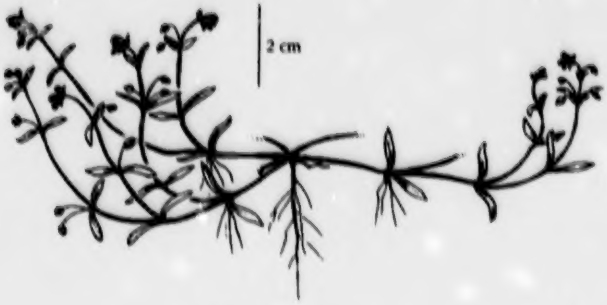
DESCRIPTION:

General: Annual herb from a fibrous root; stems ascending to erect, usually solitary but sometimes several, branched or unbranched, 5-20 cm tall.

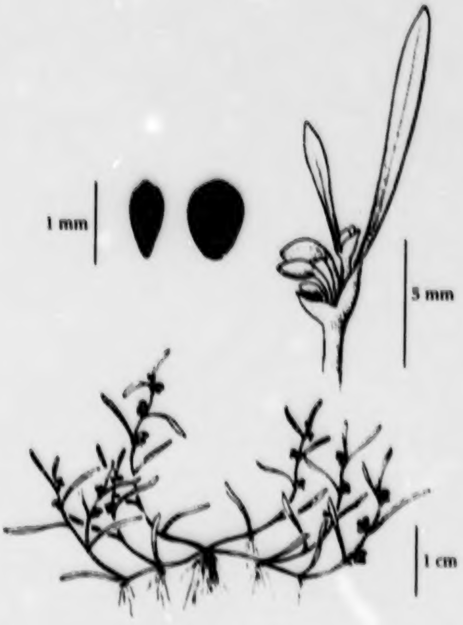
Leaves: Basal leaves lacking; stem leaves several, linear, alternate, 1-5 cm long, 1-3 mm wide.

Flowers: Inflorescence of loose terminal or axillary racemes 2-5 cm long with 5-12 flowers on slightly recurved stalks 5-20 mm long; petals 5, white, 4-6.5 mm long; sepals 2, 3-4 mm long but up to 6 mm long in fruit; stamens 3.

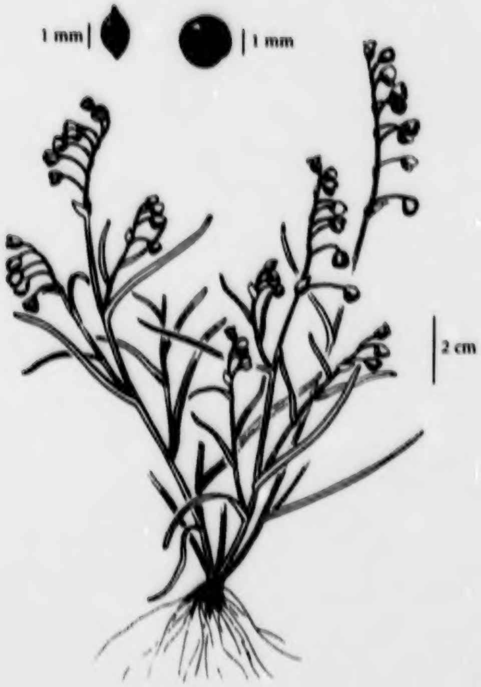
Fruits: Capsules, 3-valved; seeds black, shiny, lens-shaped, 1.4-2.5 mm long.



Montia fontana



Montia howellii



Montia linearis

***Montia parvifolia* (Moc. *ex* DC.) Greene** (*M. flagellaris* [Bong.] B.L. Robins. = var. *flagellaris*)
small-leaved montia
HABITAT/RANGE:
Moist mossy rock outcrops, streambanks and shorelines in the lowland and montane zones; frequent in S BC; N to SE AK and SW YT, E to MB and S to MT, ID, UT and CA.
DESCRIPTION:

General: Perennial herb from slender rhizomes and stolons, sometimes forming large patches; stems ascending to erect, solitary to several, simple from the nodes of the rhizomes, 10-25 cm tall; vegetative stoloniferous branches up to 40 cm long.

Leaves: Basal leaves many, egg-shaped, spoon-shaped or rounded, the blades 1.5-3 cm long, 2-20 mm wide, the stalks as long or longer than the blades; stem leaves several, lanceolate to egg-shaped or rounded, alternate, reduced, narrower than the basal leaves.

Flowers: Inflorescence of bracteate, terminal racemes with 3-8 flowers on stalks 5-12 mm long; petals 5, pinkish or white with pink veins, 7-15 mm long; sepals 2, unequal, 2-3 mm long; stamens 5.

Fruits: Capsules, egg-shaped, 3-valved; seeds 2, black, shiny, 1-1.5 mm long.

Notes: Two intergrading taxa occur in BC:

1. Basal leaf blades narrowly egg-shaped to spoon-shaped, usually less than 5 mm wide; the common phase in BC.......... var. *parvifolia*

1. Basal leaf blades rounded, usually more than 5 mm wide; infrequent along the coast .... var. *flagellaris* (Bong.) C.L. Hitchc.

PORTULACA

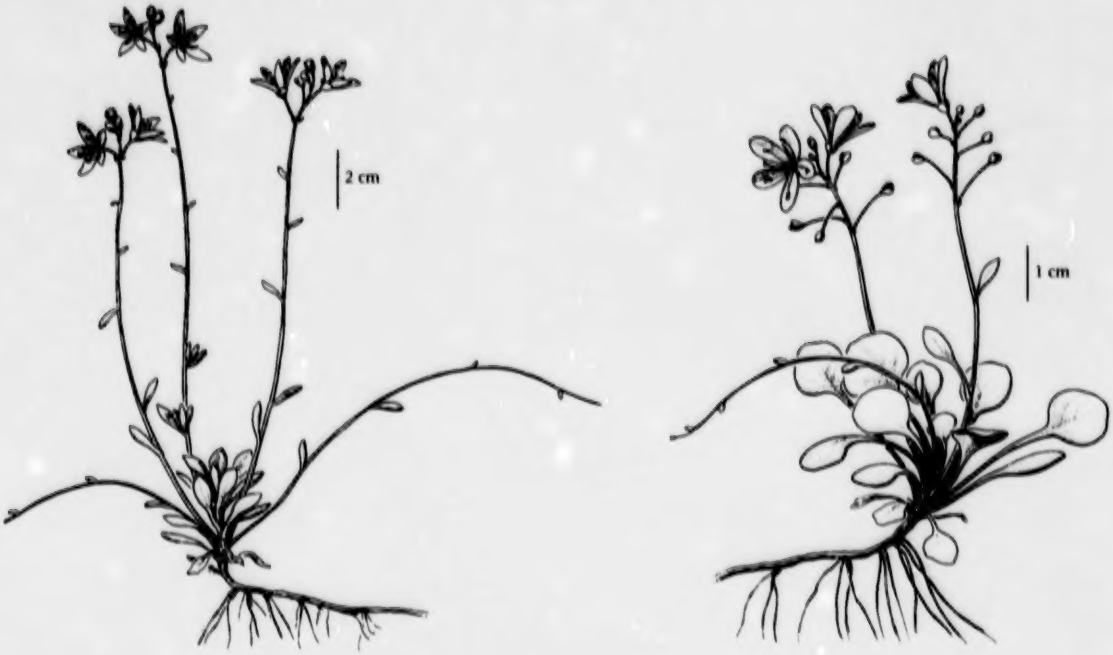
***Portulaca oleracea* L.**
common purslane
HABITAT/RANGE:
Fields and waste places; infrequent in S BC, infrequent in SC BC; introduced from Eurasia.
DESCRIPTION:

General: Annual succulent herb from a taproot; stems usually prostrate, several, freely branched, 10-30 cm long.

Leaves: Basal leaves lacking; stem leaves alternate to sub-opposite, spoon- to egg-shaped, 1-3 cm long, 3-10 mm wide, involucral-like at the stem tips.

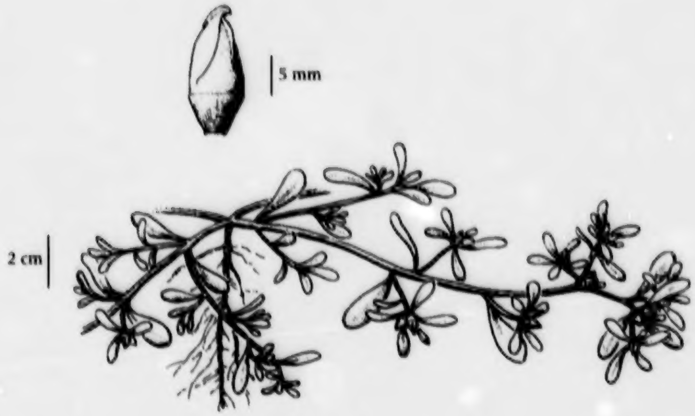
Flowers: Inflorescence of axillary and terminal clusters of unstalked flowers; buds pointed at the tips; petals usually 5, yellow, 3-5 mm long; sepals 2, keeled, sharp-pointed, 3-4 mm long; stamens 6-10, joined at the base.

Fruits: Capsules, 3-8 mm wide; seeds black, with fine projections, 0.6-1 mm long.



var. *parvifolia* var. *flagellaris*

Montia parvifolia



Portulaca oleracea

TALINUM

Talinum sediforme **von Poelln.** (*Talinum okanoganense* English)

Okanogan fameflower; Okanogan talinum

HABITAT/RANGE:

Dry, open rocky slopes, ridges and grasslands in the steppe and montane zones; rare in SC BC; S to N WA.

DESCRIPTION:

General: Perennial herb from a branched stem-base and a thick, branched taproot; forming mats up to 12 cm wide; stems ascending, numerous, branched, 1.5-3 mm thick, 5-10 cm tall.

Leaves: Basal leaves lacking; stem leaves linear, almost circular in cross section, 5-12 mm long, 1-2 mm wide, deciduous except for hardened midrib portions, bases remain as hardened bristles.

Flowers: Inflorescence a minutely bracteate, spreading, flat-topped, terminal cluster of 3-9 flowers on stalks 2-5 cm long; petals usually 5, white, yellow or pink, 6-8 mm long, soon withering; sepals 2, 3 mm long; stamens 15-30.

Fruits: Capsules, 2.8-3.2 mm long; seeds black, shiny, 0.8-1 mm long.

PRIMULACEAE[16, 17]

1. Flowers inconspicuous, unstalked to stalked in leaf axils; corollas membranous and much shorter than the calyces or lacking .... *Glaux*

1. Flowers often showy, stalked; corollas longer than calyces (except *Anagallis minima*).

  2. Leaves in basal rosettes; flower stems leafless.

    3. Corolla lobes several times as long as the tubes, sharply reflexed; stamens protruding full length .... *Dodecatheon*

    3. Corolla lobes less than twice as long as the tubes, not sharply reflexed; stamens not protruding.

      4. Plants perennials with cushions of small, narrow leaves and corollas rose-pink, fading to lavender or plants annuals, corollas white, at first deep purple, and leaves grey soft-hairy (*D. alaskana*); calyces more or less keeled on and below the lobes, smooth or with star-shaped hairs .... *Douglasia*

      4. Plants annuals or perennials, if perennials and with cushions of basal leaves, then flowers white and calyces grey soft-hairy, but not with star-shaped hairs and not keeled along or below the lobes

        5. Flowers white, usually less than 5 mm, sometimes up to 7 mm, but then plants grey soft-hairy; corollas constricted at the throats .... *Androsace*

        5. Flowers usually pink to violet or purple, sometimes white; plants never grey soft-hairy; corollas not constricted at the throats .... *Primula*

  2. Leaves not confined to basal rosettes; flower stems leaf bearing.

    6. Leaves reduced and often scalelike on lower part of stem, the larger leaves crowded or whorled near stem tips; floral parts mostly in 6's or 7's (5's to 9's) .... *Trientalis*

    6. Leaves more or less the same along length of the stem; floral parts mostly in 5's.

      7. Corollas salmon pink and red or white to pinkish with greenish calyces, solitary in the axils; flowers 1-8 mm wide; plants annuals, decumbent to ascending, sometimes erect; capsules breaking across the middle at dispersal .... *Anagallis*

      7. Corollas yellow, solitary, axillary or arranged in a circular manner around a common insertion point or on short branches or in inflorescences that are terminal, leafy, with bracts, simple to compound, elongate, flowers generally 10-20 mm wide; plants perennials, often erect; capsules breaking into valves at dispersal .... *Lysimachia*

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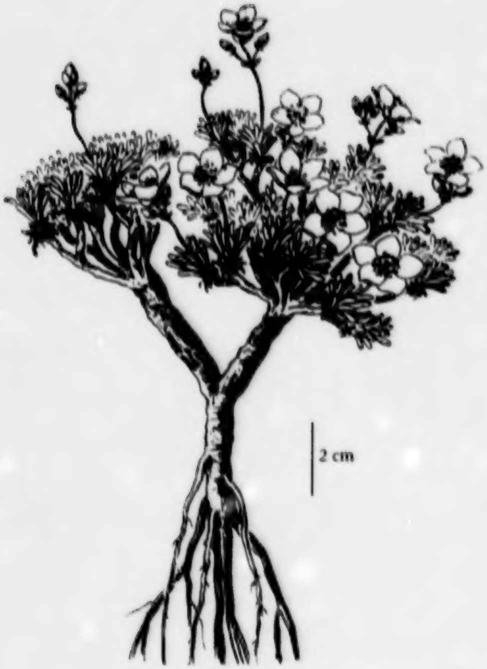
[16] Contributed by J.L. Penny and G.W. Douglas.

[17] Key adapted from Hitchcock and Cronquist (1973).



Talinum sediforme

ANAGALLIS

1. Plants 2-10 cm tall; upper leaves alternate; corollas divided less than 3/4 to the bases, the lobes less than 2 mm long; plants native .... A. *minima*

1. Plants 10-40 cm tall; leaves all opposite; corollas divided almost to the bases, the lobes more than 3 mm long; plants introduced from Europe .... A. *arvensis*

Anagallis arvensis* L. ssp. *arvensis

scarlet pimpernel; poor man's weatherglass

HABITAT/RANGE:

Mesic to dry fields and waste areas in the lowland zone; infrequent garden escape in extreme SW BC; introduced from Europe.

DESCRIPTION:

General: Annual herb from a taproot; stems decumbent to ascending, several, branched below, smooth, 10-40 cm long.

Leaves: Basal leaves lacking; stem leaves opposite, egg-shaped, 5-15 mm long, entire, unstalked and somewhat clasping at the bases, with each pair arranged at right angles to the next along the stem.

Flowers: Inflorescence of several to many stalked flowers solitary in the leaf axils, the stalks 1-4 cm long, curved and usually recurved in fruit; corollas salmon pink and red, 5-10 mm wide, 5-lobed, divided almost to the bases, the lobes fringed with small, fine hairs, more than 3 mm long; calyx lobes 5, linear-lanceolate, tapering at the tips, 2-4 mm long, nearly distinct; filaments hairy.

Fruits: Capsules, spherical, 3-5 mm wide, breaking at the middle at dispersal.

***Anagallis minima* (L.) Krause** (*Centunculus minimus* L.)

chaffweed

HABITAT/RANGE:

Moist to wet river banks, salt marshes, vernal pools and pond margins in the lowland zone; rare on S Vancouver Island and the Gulf Islands; S to MN, IL, CA, TX, FL and MX; South America, Europe.

DESCRIPTION:

General: Annual herb from a fibrous root; stems decumbent and rooting at the nodes to erect, several, branched below, smooth, 2-10 cm long.

Leaves: Basal leaves lacking; stem leaves alternate, or the lowermost opposite, egg-shaped to spoon-shaped or elliptic, 5-10 mm long, confluent with the stems near their insertion points.

Flowers: Inflorescence of few to several short-stalked flowers solitary in the leaf axils, the stalks about 1 mm long; corollas white to pinkish, papery, globe-shaped, scarcely half the length of the calyces, drying and hooded on the capsules, the tubes about twice as long as the 4 to 5, sharp-pointed, triangular-shaped lobes, divided less than 3/4 to the bases, the lobes less than 2 mm long; calyces greenish, 4- to 5-lobed nearly to the bases, the lobes linear, 2-3 mm long, minutely sharp-toothed.

Fruits: Capsules, spherical, about 2 mm long, breaking at the middle at dispersal; seeds brown, pitted.

ANDROSACE[18]

1. Rosette leaves grey soft-hairy; flower stalks shorter than flowers .... A. *chamaejasme*

1. Rosette leaves smooth to hairy but not grey soft-hairy; flower stalks longer than flowers.

    2. Involucral bracts wide and leaf-like, oblong to narrowly egg-shaped; corollas nearly included in calyx tubes; calyx lobes narrowly egg-shaped, about as long as the tubes .... A. *occidentalis*

    2. Involucral bracts lanceolate to linear; corollas slightly longer than calyx tubes; calyx lobes more or less triangular, shorter than the tubes .... A. *septentrionalis*

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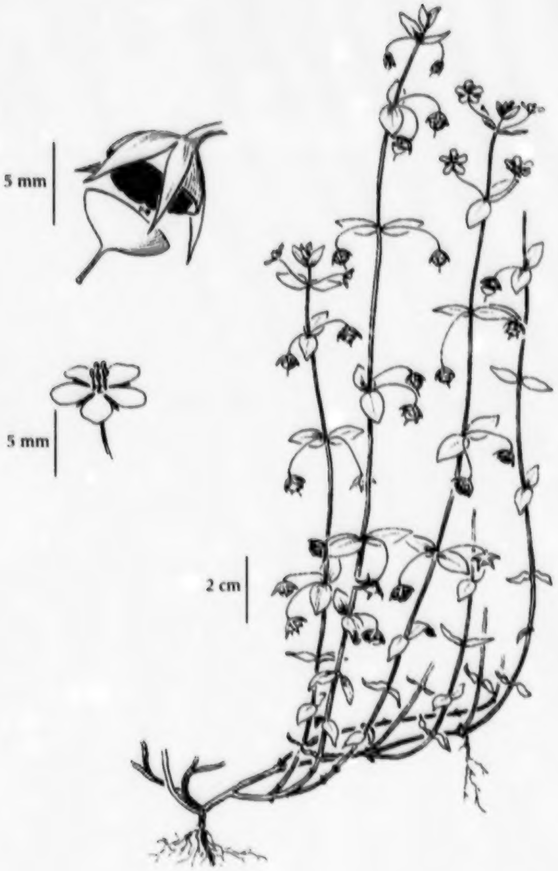
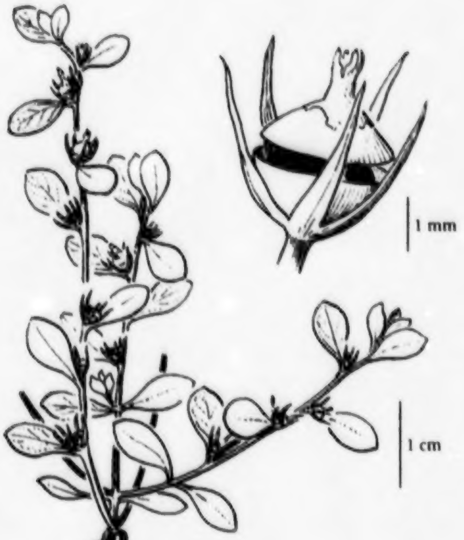
[18] Key adapted from Hitchcock and Cronquist (1973).



Anagallis arvensis ssp. *arvensis*



Anagallis minima

***Androsace chamaejasme* Wulfen *non* Host ssp. *lehmanniana* (Spreng.) Hult.** (*A. lehmanniana* Spreng.; *A. chamaejasme* Host var. *arctica* Knuth)

sweet-flowered fairy-candelabra

HABITAT/RANGE:

Mesic to dry rocky slopes and meadows in the subalpine and alpine zones; rare in N and SE BC; circumpolar, N to AK and YT and S to MT; Eurasia.

DESCRIPTION:

General: Perennial herb from a branched stem-base; stems prostrate, forming mats as much as 10 cm wide, flowering stems single from each rosette of leaves, with copious long, shaggy, soft hairs, 3-10 cm tall.

Leaves: Basal leaves in a dense rosette, grey soft-hairy, oblanceolate, 5-15 mm long; stem leaves lacking.

Flowers: Inflorescence a compact, terminal, involucrate umbel of 2 to 8 stalked flowers, the stalks shorter than the flowers; corollas white, each with a yellow eye, 5-7 mm wide, the short tubes constricted at the throats, spreading flat to 5 lobes, the lobes 2-5 mm long; calyces 2-3 mm long, the 5 teeth about equal to the tubes, not keeled, long-hairy, the hairs simple; bracts few to several, lanceolate.

Fruits: Capsules, nearly round, 2-3 mm long; seeds few.

***Androsace occidentalis* Pursh** (*A. occidentalis* Pursh. var. *simplex* [Rydb.] St. John)

western fairy-candelabra

HABITAT/RANGE:

Dry, sandy slopes in the steppe and montane zones; infrequent in S BC and the Peace River area; E to ON and S to IN, TX, NM and CA.

DESCRIPTION:

General: Annual herb from a fibrous root; stems erect, 1- to many, simple, with branched hairs, 3-25, rarely over 7 cm, tall.

Leaves: Basal leaves in a single dense rosette, lanceolate, oblanceolate or spoon-shaped, greyish short-hairy with simple hairs, entire to finely toothed,1-3 cm long; stem leaves lacking.

Flowers: Inflorescences 1 to several terminal, involucrate umbels of 3 to 10 stalked flowers, the stalks 1-3 cm long, unequal, longer than the flowers; corollas white, about 2.5 mm wide, nearly included in the calyx tubes, the tubes constricted at the throats flaring to 5 short lobes; calyces 5-lobed, the lobes lanceolate, about equalling the tubes, not keeled; bracts subtending the inflorescence wide and leaf-like, to 1 cm long, oblong to narrowly egg-shaped.

Fruits: Capsules, spherical, about equalling the calyx tubes; seeds dark brown, many.

***Androsace septentrionalis* L.** (*A. septentrionalis* var. *puberulenta* [Rydb.] Knuth; *A. septentrionalis* var. *subumbellata* A. Nels.; *A. septentrionalis* var. *diffusa* [Small] Knuth)

northern fairy-candelabra

HABITAT/RANGE:

Dry, open slopes from the montane to alpine zones; frequent throughout BC east of the Coast-Cascade Mountains; circumpolar, S to AZ, NM and CA; Eurasia.

DESCRIPTION:

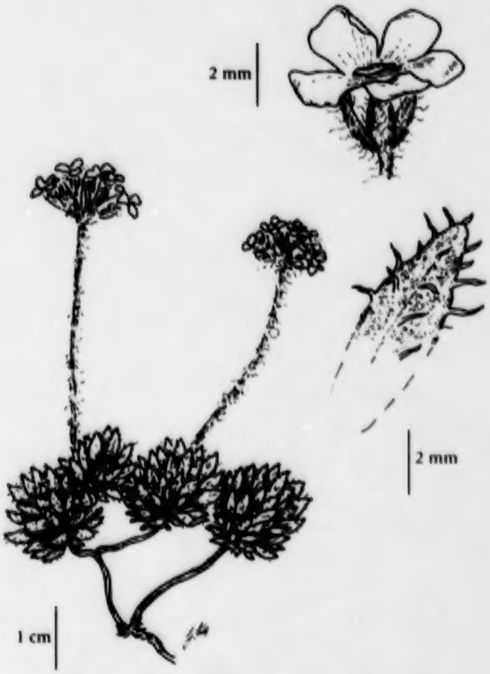
General: Annual herb from a taproot; stems erect, 1- to many, simple, nearly smooth to sparsely glandular-hairy or more often densely hairy with fine branched hairs, 3-25 cm tall.

Leaves: Basal leaves in a single dense rosette, oblanceolate, sparsely to densely hairy with simple or forked hairs, 1-3 cm long, entire to sharp-toothed towards the tip; stem leaves lacking.

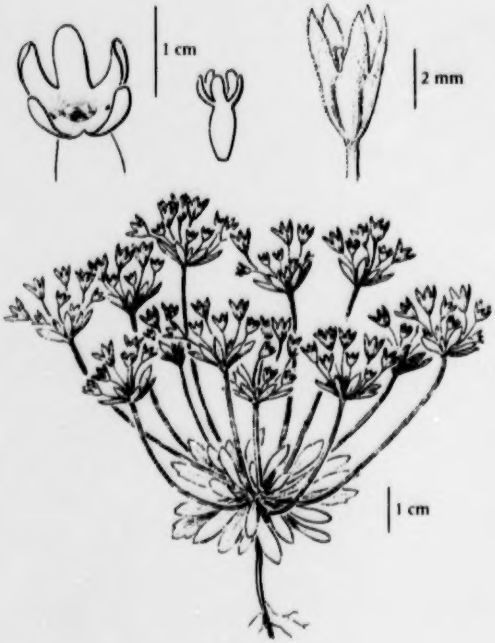
Flowers: Inflorescences 1 to several terminal, involucrate umbels of 3 to 25 stalked flowers, the stalks 1-10 (13) cm long, longer than the flowers; corollas white, slightly longer than the calyces, the tubes flaring to 5 lobes 0.5 to 1 mm long; calyces top-shaped, strongly keeled, 2.5-4 mm long, the tubes longer than the 5 triangular lobes; bracts 3-6 mm long, usually about 1 mm wide, lanceolate to linear.

Fruits: Capsules, 2-4 mm long, about equalling the calyx tubes, top-shaped to spherical; seeds dark brown, many.

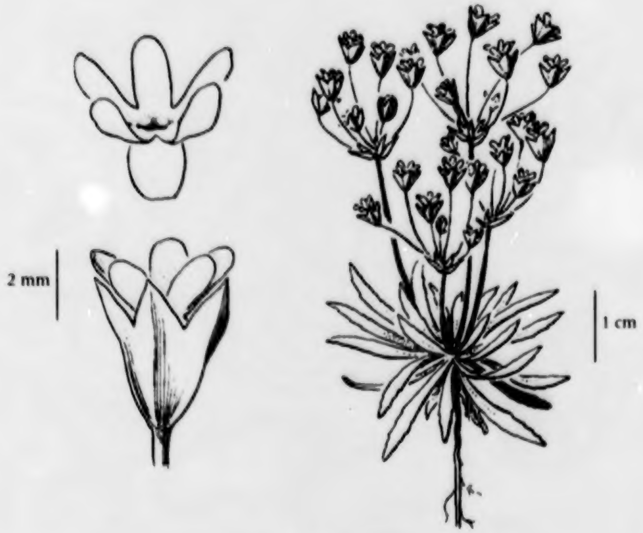
Notes: A polymorphic species, both as to hairiness and stature, but not easily separated into natural infraspecific taxa.



Androsace chamaejasme **ssp.** *lehmanniana*



Androsace occidentalis



Androsace septentrionalis

DODECATHEON[19]

1. Corollas creamy-white, drying and persistent with stamens; capsules protruding among them; leaf blades wavy to sharply toothed, heart-shaped to abruptly rounded at bases, the stalks slender, not winged to slightly winged, about the same to twice the length of the blades .... *D. dentatum*

1. Corollas normally pink to rose to purple, rarely light yellow or white, deciduous with stamens as capsules mature; leaf blades mostly entire or very shallowly toothed, variously shaped at the bases, the stalks winged, 1/4 as long to nearly as long as the blades.

    2. Stigmas knoblike, usually at least twice the width of the styles at midlength; floral parts in 4's or 5's; filaments rarely more than 1 mm long, free to the bases or shallowly united .... *D. jeffreyi*

    2. Stigmas not much enlarged, less than twice as wide as the styles; floral parts typically in 5's; or in 4's or 5's on the same plant (*D. hendersonii*); filaments often united and forming tubes greater than 1 mm long (except *D. frigidum*).

        3. Leaves abruptly narrowed to distinct stalks, the blades less than 2-3 times as long as wide; filaments deep purple-red.

            4. Filaments 2-4 mm long, united into a tube; connective tissue of anthers usually cross- wrinkled; leaf blades egg-shaped to triangular, entire to shallowly wavy-margined or remotely toothed, usually smooth, sometimes glandular-hairy .... *D. hendersonii*

            4. Filaments 1 mm long or less, sometimes to 1.5 mm, free or shallowly united, connective tissue of anthers usually smooth; leaf blades spade-shaped to elliptic or egg-shaped, entire to irregularly round-toothed, smooth .... *D. frigidum*

        3. Leaves narrowed gradually or somewhat abruptly to stalks, the blades usually more than 3 times as long as wide; filaments yellow, sometimes flecked with red or purple.

            5. Filaments 1 mm long or less, free or united; connective tissue of anthers strongly cross-wrinkled; capsule tips coming off like lids .... *D. conjugens*

            5. Filaments generally longer than 1.5 mm, united; connective tissue of anthers either smooth or wrinkled lengthwise when dried; capsules breaking to the tips by valves .... *D. pulchellum*

***Dodecatheon conjugens* Greene** (*D. conjugens* Greene var. *beamishiae* Boivin = ssp. *conjugens*)
slimpod; desert shootingstar

HABITAT/RANGE:

Wet to dry seepages and meadows in the steppe to alpine zones; common in SE BC; E to SK and S to WY and CA.

DESCRIPTION:

General: Perennial herb without rootstocks or bulblets from a short stem base; stem erect, solitary, simple, usually smooth, 10-30 cm tall.

Leaves: Basal leaves lanceolate to oblanceolate, spoon-shaped, or even egg-shaped, smooth to densely granular-short-hairy, 3-20 cm long, several times as long as wide, entire, narrowed gradually or somewhat abruptly to winged stalks somewhat shorter than the blades; stem leaves lacking.

Flowers: Inflorescence a terminal, involucrate umbel of 1-10 stalked flowers, floral parts in 5's; corollas deeply lobed, the lobes rose-pink to white, 1-3 cm long, bent back, the tubes yellowish, wavy purplish-red-ringed at the bases; calyces lobed, the lobes lanceolate, 3-6 mm long, finely purple-spotted, smooth; filaments mostly under 1 (1.5) mm, free or united, usually yellowish or purplish, smooth; the connective tissue deep red to purple, strongly cross-wrinkled; anthers 6-8 mm long, yellow with purple spots to light or deep purple; stigmas not much enlarged, less than twice as wide as the styles; corollas and stamens deciduous as capsules mature.

Fruits: Capsules, cylindrical, 8-12 mm long, thin-walled, the tips coming off like lids.

Notes: Two sympatric subspecies occur in BC:

1. Leaf blades smooth or nearly so .... ssp. *conjugens*
1. Leaf blades densely granular short-hairy .... ssp. *viscidum* (Piper) Mason

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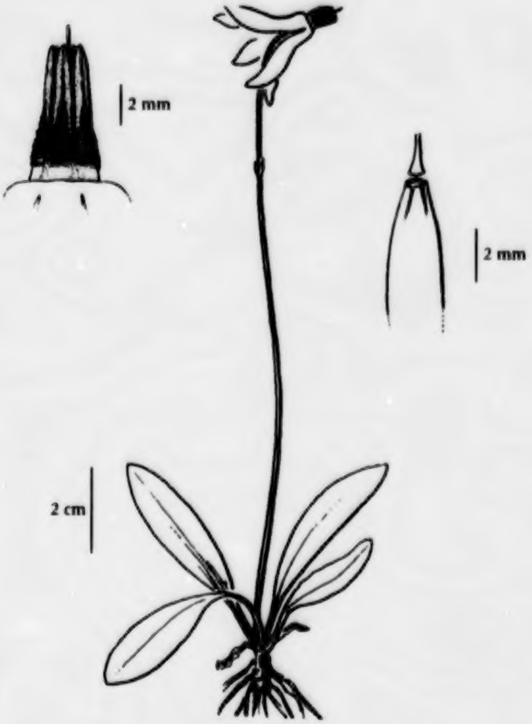
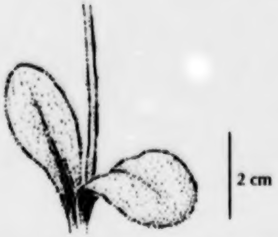
[19] Key adapted from Hitchcock and Cronquist (1973).



Dodecatheon conjugens ssp. *conjugens*



ssp. *viscidum*

Dodecatheon dentatum* Hook ssp. *dentatum

white shootingstar; dentate shootingstar

HABITAT/RANGE:

Wet to moist streambanks and shaded slopes in the montane zone; locally infrequent in SC BC; S to OR and ID.

DESCRIPTION:

General: Perennial herb from a short, thick, ascending rhizome, without bulblets; stems erect, solitary, simple, smooth or very sparsely glandular-hairy, 15-40 cm tall.

Leaves: Basal leaves egg-shaped to oblong or lanceolate, smooth, 3-10 cm long, 2-6 cm wide, with conspicuously wavy to sharply-toothed margins, the bases from heart-shaped to abruptly rounded, narrowed abruptly to slender stalks from equal to nearly twice as long as the blades; stem leaves lacking.

Flowers: Inflorescence a terminal, involucrate umbel of 2 to 12 stalked flowers, floral parts in 5's, individual flower stalks up to 7 cm long; corollas deeply lobed, the lobes creamy-white, 12-20 mm long, bent back, the tubes yellowish with wavy, reddish-purple rings at the base; calyces lobed, the lobes lance-shaped, 3-4 mm long; filaments free, less than 1 mm long, deep reddish-purple, smooth, but with longitudinal grooves; anthers 6-7 mm long, deep red, the connective tissue smooth; stigmas very slightly enlarged.

Fruits: Capsules, 6-10 mm long, thin-walled, cylindrical, growing past the persistent, dried corollas and stamens, breaking open to the tips by valves.

***Dodecatheon frigidum* Cham. *ex* Schlecht.**

northern shootingstar

HABITAT/RANGE:

Moist to wet open forest, woodlands, and meadows in the montane to alpine zones; frequent in N BC; N to AK, YT and NT.

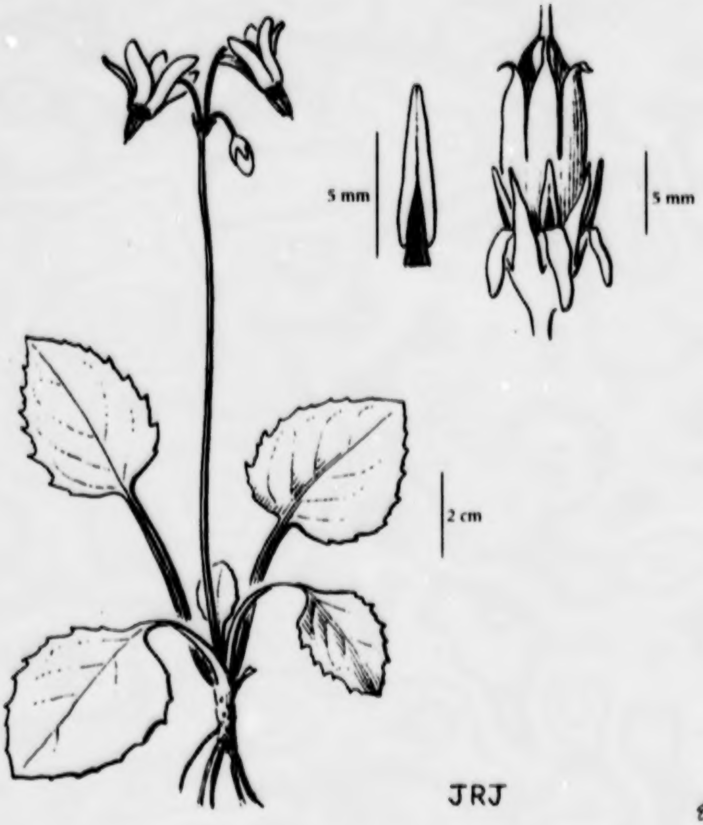
DESCRIPTION:

General: Perennial herb from a horizontal rhizome, the roots brownish; stems erect, solitary, simple, 5-40 cm tall.

Leaves: Basal leaves spade-shaped to elliptic or egg-shaped, usually less than twice as long as wide, 2-15 cm long, irregularly round-toothed to almost entire, commonly rounded or squared-off at the bases, abruptly narrowed to distinct, winged stalks nearly the same length as the blades; stem leaves lacking.

Flowers: Inflorescence a compact, terminal, involucrate umbel of 2 to 7 glandular, stalked flowers, floral parts in 5's, the stalks 0.5-4.5 (5) mm long; corollas magenta to lavender, deeply lobed, the lobes 8-15 mm long, bent back; calyces lobed, the lobes 2.5-3.5 mm long, the tubes 1.5-2.5 mm long; filaments deep purple-red, less than 1 mm, sometimes 1.5 mm long, free or shallowly united; anthers 4-5 mm long, the connective tissue black and smooth; stigmas not conspicuously enlarged, less than twice as wide as the styles; corollas and stamens deciduous as capsules mature.

Fruits: Capsules, 7-12 mm long, cylindrical, the tips coming off like lids.


5 mm
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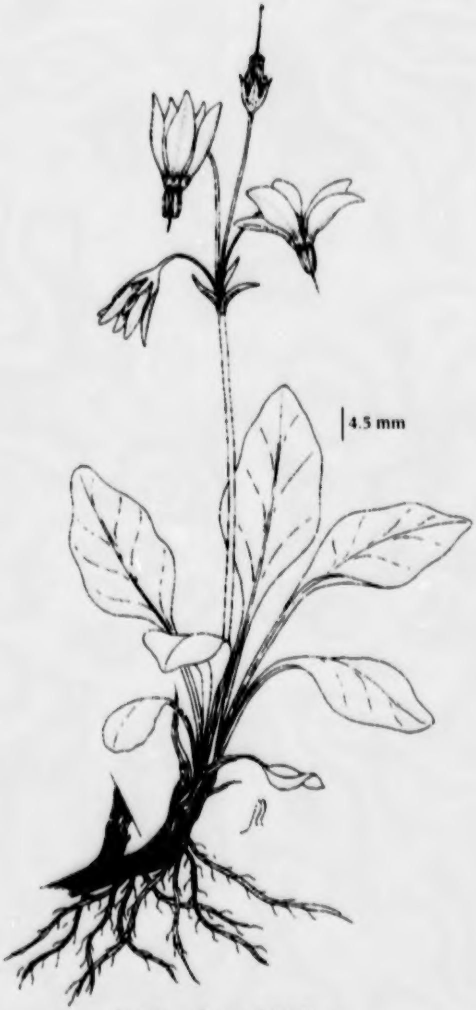
Dodecatheon dentatum ssp. *dentatum*



Dodecatheon frigidum

Dodecatheon hendersonii* A. Gray ssp. *hendersonii

broad-leaved shootingstar; Henderson's shootingstar

HABITAT/RANGE:

Mesic to dry woods and grassy meadows in the lowland and montane zones; locally common on S Vancouver Island and the Gulf Islands; S to OR and CA.

DESCRIPTION:

General: Perennial herb from slender, fibrous roots and many rice-like bulblets (at flowering time); stems erect, solitary, simple, smooth to glandular short-hairy, 10-30 cm tall.

Leaves: Basal leaves egg-shaped to triangular, usually smooth sometimes glandular-hairy, 3-14 cm long, the blades less than 2-3 times as long as wide, entire to shallowly wavy-margined or remotely toothed, narrowing abruptly to winged stalks 1/4 as long to nearly as long as the blades; stem leaves lacking.

Flowers: Inflorescence a terminal, involucrate umbel of 2 to 15 stalked flowers, the stalks smooth to glandular-short-hairy, floral parts in 4's or 5's (on the same plant); corollas deeply lobed, the lobes deep magenta to lighter in colour, grading to yellow at the bases and on the tubes, 15-25 mm long, bent back, bases of the tubes deep purple-red; calyces lobed, the lobes lanceolate, 6-8 mm long, usually sparsely glandular-short hairy, finely purple-flecked; filaments united to form tubes, 2-4 mm long, deep purple-red, usually cross-wrinkled, sometimes nearly smooth; anthers 4-6 mm long, deep red to purple; connective tissue more deeply coloured, usually cross-wrinkled; stigmas not noticeably enlarged, less than twice as wide as the styles; corollas and stamens deciduous as capsules mature.

Fruits: Capsules, cylindrical, 7-12 mm long, the tips coming off like lids.

Dodecatheon jeffreyi* van Houtte ssp. *jeffreyi

Jeffrey's shootingstar; tall mountain shootingstar

HABITAT/RANGE:

Wet to moist meadows, streambanks, fens, bogs, and shores in the lowland to lower subalpine zones; frequent in S BC, especially on the coast and in SE BC; N to AK and S to ID, MT and CA.

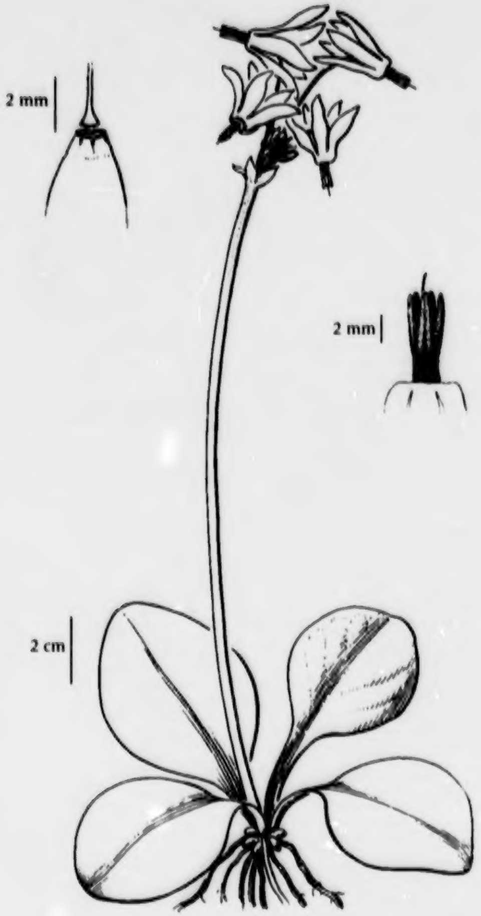
DESCRIPTION:

General: Perennial herb from clumps connected by slender rhizomes without rice-like bulblets; stems erect, solitary, simple, smooth or sparsely to densely glandular-hairy, 10-60 cm tall.

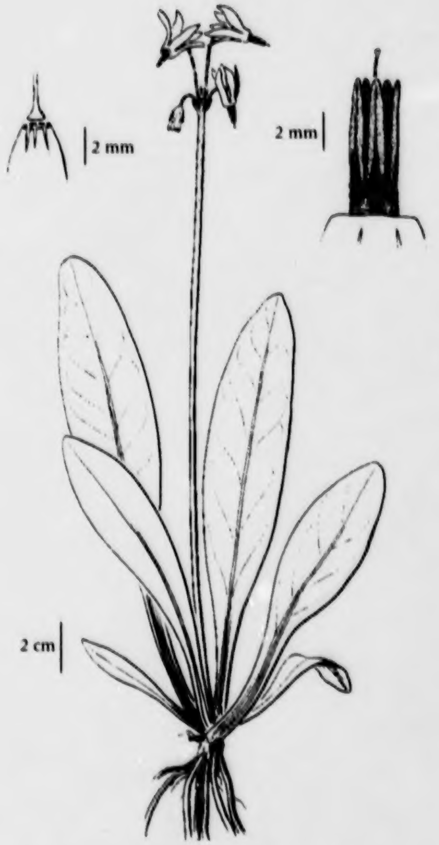
Leaves: Basal leaves oblanceolate, the tips gradually tapering to points or rounded, 5-40 cm long, entire to round-toothed with hardened thickenings or simply toothed, gradually tapering to slender bases to become long, winged stalks 1/4 the length of the blades; stem leaves lacking.

Flowers: Inflorescence a terminal, involucrate umbel of 3 to 20 stalked flowers, floral parts in 4's or 5's; corollas deeply lobed, the lobes purplish, reddish, mauve, or lavender-magenta to rarely light yellow or whitish, 1-2.5 cm long, bent back, the tubes lighter than the lobes, cream or yellow, usually purplish or reddish-banded just below the notches of the lobes; calyces lobed, the lobes 5-10 mm long, gradually tapering to points, the tubes 2-5 mm long; filaments scarcely 1 mm long, free to the bases or shallowly united, deep reddish- to blackish-purple; anthers 6-10 mm long, yellow to reddish; connective tissue usually more deeply coloured and conspicuously cross-wrinkled; stigmas knob-like, about twice the width of the styles at midlength; corollas and stamens deciduous as capsules mature.

Fruits: Capsules, egg-shaped, 7-11 mm long, the tips coming off like lids, the remaining ovary wall splitting from the tops.



Dodecatheon hendersonii ssp. *hendersonii*



Dodecatheon jeffreyi ssp. *jeffreyi*

Dodecatheon pulchellum **(Raf.) Merrill** (*D. pauciflorum* [Durand] Greene, *D. pulchellum* ssp. *pauciflorum* [Durand] Hult., *D. radiatum* Greene, *D. radiatum* ssp. *macrocarpum* [A. Gray] Beamish, *D. pauciflorum* var. *watsonii* [Tidestr.] C.L. Hitchc., and *D. radiatum* ssp. *watsonii* Thomps. = ssp. *pulchellum*; *D. cusickii* (Greene) Calder & Taylor, *D. pauciflorum* ssp. *cusickii* = ssp. *cusickii*).

pretty shootingstar; few-flowered shootingstar

HABITAT/RANGE:

Moist to wet, saline to non-saline meadows, grassy bluffs and slopes, and streambanks from the lowland to alpine zones; common throughout BC, especially on the coast and in S BC; N to AK and S to PA and MX.

DESCRIPTION:

General: Perennial herb from very short, erect rootstocks, without rice-like bulblets; stems erect, solitary, simple, smooth to conspicuously glandular-hairy throughout, 5-60 cm tall.

Leaves: Basal leaves oblong-lanceolate to spade-shaped or oblanceolate, 2-20 cm long, the blades more than 3 times as long as wide, entire, narrowed gradually to winged stalks nearly as long; stem leaves lacking.

Flowers: Inflorescence a terminal, involucrate umbel of 1 to 25 stalked flowers, floral parts in 5's; corollas deeply lobed, the lobes (white) purplish-lavender, 10-20 mm long, bent back, the tubes yellowish, usually with purplish, wavy lines at the bases; calyces lobed, the lobes 3-5 mm long, usually purple-flecked; filaments united into yellowish, orange, or less commonly purple tubes, 1.5-3 mm long, smooth or only slightly wrinkled; anthers usually yellowish to reddish-purple, 4-7 mm long, the connective tissue purple, smooth or wrinkled lengthwise when dried; stigmas less than twice as wide as the styles; corollas and stamens deciduous as capsules mature.

Fruits: Capsules, 5-15 mm long, membranous to firm-walled, cylindrical, smooth to glandular-hairy, breaking to the tips by valves.

Notes: Unlike Suttill and Allen (1992), we have recognized only two taxa within this species. Variability within the ssp. *pulchellum* is continuous and intermediate specimens are many; recognizing additional varieties does not appear warranted. Two subspecies occur in BC:

1. Plants strongly glandular-hairy, 4-15 hairs per mm along edge of involucral bracts .... ssp. *cusickii*
1. Plants smooth or very slightly hairy, 0-3 hairs per mm along edge of involucral bracts .... ssp. *pulchellum*

DOUGLASIA[20]

1. Plants with a single basal rosette of leaves .... *D. alaskana*
1. Plants with multiple rosettes or clustered cushions of leaves
    2. Inflorescence a tight, terminal, involucrate umbel of 2-10 stalked flowers .... *D. laevigata*
    2. Inflorescence a terminal umbel of a single stalked flower to sometimes 2 stalked flowers, not involucrate .... *D. gormanii*

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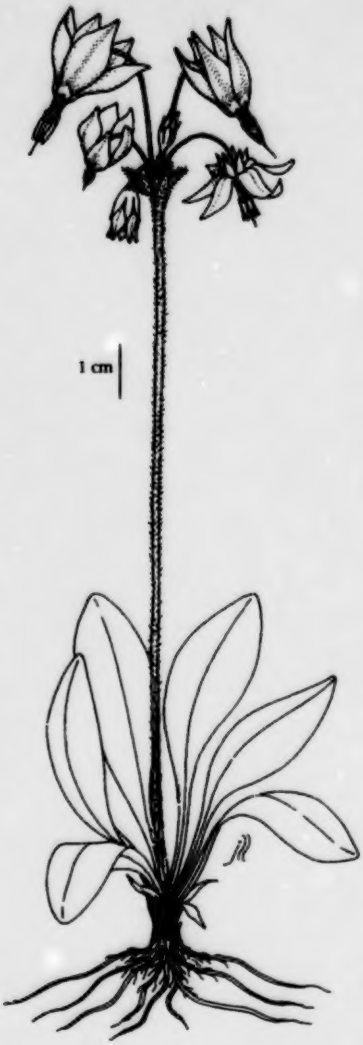
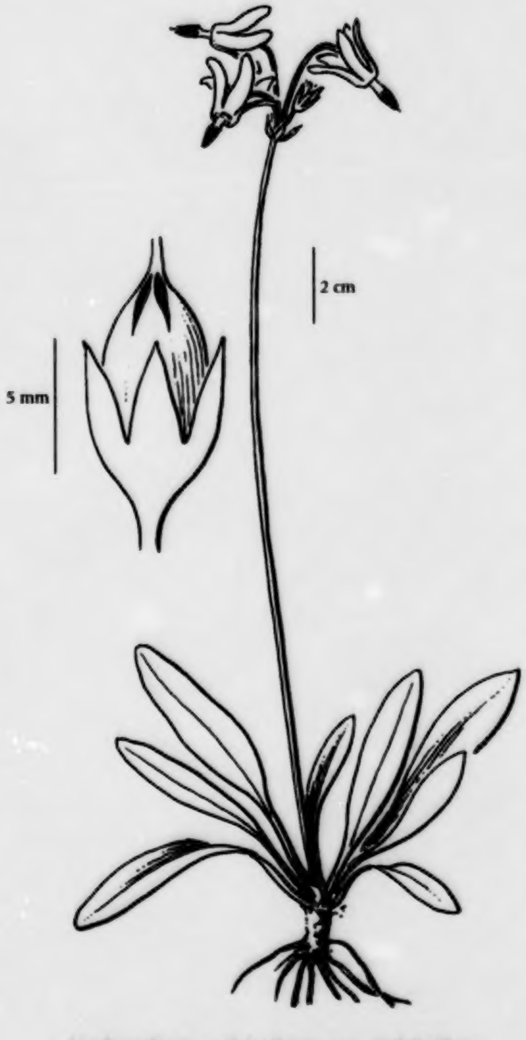
[20] Key adapted from Hitchcock and Cronquist (1973).



Dodecatheon pulchellum ssp. *cusickii*



Dodecatheon pulchellum ssp. *pulchellum*

Douglasia alaskana **(Coville & Standley *ex* Hultén) S. Kelso** (*Androsace alaskana* Coville & Standley *ex* Hultén, *A. alaskana* var. *reedae* Welsh & Goodrich)

Alaskan fairy-candelabra

HABITAT/RANGE:

Mesic to dry scree slopes in the subalpine and alpine zones; rare in NW BC, known only from Big Island, Atlin Lake; N to SE AK and SW YT.

DESCRIPTION:

General: Annual or biennial herb from a taproot; stems ascending to erect, 4-20 or more per rosette, simple, smooth or hairy, at least at the tips, with branched or star-shaped hairs, in early bloom very short, 3-15 cm tall.

Leaves: Basal leaves in a single, dense rosette, wedge-shaped, 10-30 mm long, remotely three-toothed at the tips, smooth or sparsely long-hairy below, densely long-hairy with simple hairs above, becoming smooth in age, the margins fringed with long hairs, .

Flowers: Inflorescence a terminal, sometimes involucrate umbel of 1 or 2 (3) unstalked flowers; corollas white, deep purple at first, relatively numerous, 4-5 mm long, lobed, the lobes 1-3 mm long, about 1 mm wide, entire, the tubes equal to or only slightly surpassing the calyces; calyces broadly bell-shaped to saucer-shaped, smooth, 4.5-5.5 mm long, often purplish, toothed, the teeth 1.5-3 mm long, keeled on and below lobes; bracts 1-5, or lacking, lanceolate, 3-5 mm long, smooth.

Fruits: Capsules, spherical, included within the calyces, 5-6 mm long; seeds oblong, about 2 mm long, 1 mm wide, brown, net-veined.

Douglasia gormanii **Const.** (*D. arctica* Hook. var. *gormannii* [Const.] Boivin)

Gorman's douglasia

HABITAT/RANGE:

Moist, rocky slopes in the alpine zone; rare in N BC, known only from Spatsizi Plateau; N to AK and YT.

DESCRIPTION:

General: Perennial herb densely tufted from a taproot; stems ascending, many, clumped, simple, 2-5 cm tall.

Leaves: Basal leaves in multiple dense rosettes terminating the branching vegetative stems, overlapping like shingles, oblanceolate, 4-10 mm long, 1-2 mm wide, with star-shaped hairs or forked hairs on the lower surfaces and margins; stem leaves lacking.

Flowers: Inflorescence a single terminal flower or sometimes 2 flowers; the leafless flower stalks with star-shaped hairs or sparsely so, 1-35 mm long; corollas rose-pink, tubular funnel-shaped, 3-4 mm long, spreading to 5 lobes, the lobes 1-2 mm long; calyces cup-shaped, the tubes 2-3 mm long, 5-lobed, the lobes 1.5-2 mm long, egg-shaped to triangular, keeled on and below lobes; bracts lacking.

Fruit: Capsules, nearly round.

Douglasia laevigata **var. *ciliolata***

smooth douglasia

HABITAT/RANGE:

Moist talus slopes to rocky ridges and ledges in the subalpine to alpine zones; rare on Vancouver Island and the Queen Charlotte Islands, and also known from Manning Provincial Park; E to SW AB and S to OR.

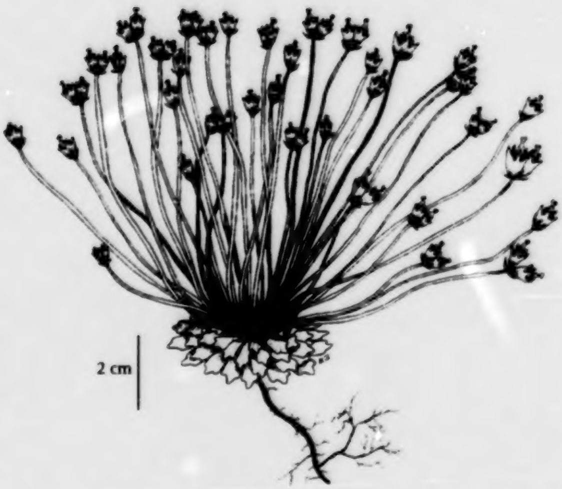
DESCRIPTION:

General: Perennial herb from a rhizome, laxly spreading and forming extensive mats; stems prostrate to ascending, several, simple, with fine star-shaped hairs, 2-7 cm tall.

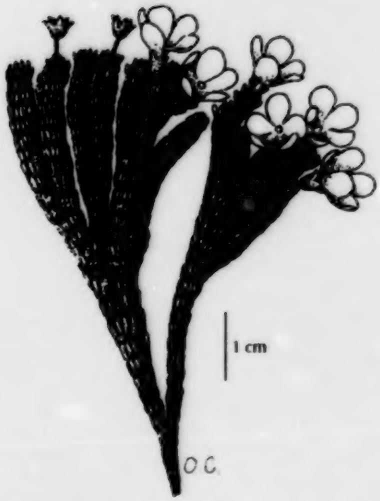
Leaves: Basal leaves in multiple rosettes, oblanceolate to oblong, 5-20 mm long, 2-5 mm wide fringed with small hairs, few-toothed to entire.

Flowers: Inflorescence a tight terminal, involucrate umbel of 2-10 stalked flowers, the stalks 2-15 mm long, with fine star-shaped hairs; corollas deep rose-pink, fading to lavender, tubular funnel-shaped, 6-7 mm long, spreading flat to 5 lobes, 4-5 mm long, rounded or with eroded, irregular-looking margins, the tubes 6-7 mm long; calyces 6-7 mm long, 5-lobed, the lobes lanceolate, subequal to the tubes, smooth to sparsely, finely star-shaped hairy, keeled on and below lobes; bracts 4-8, egg-shaped, 3-8 mm long.

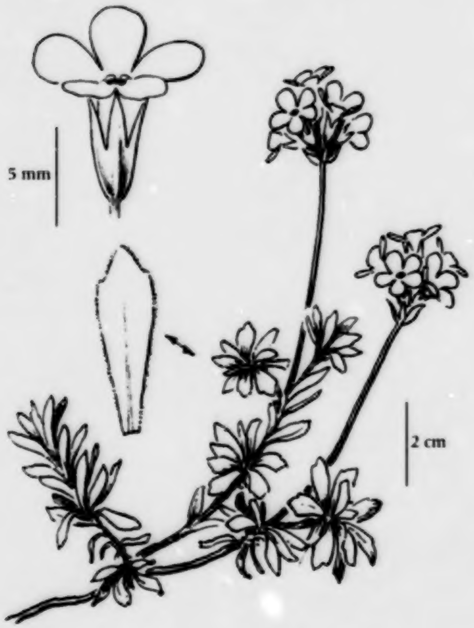
Fruits: Capsules, nearly round; seeds 1 to 3, finely pitted.



Douglasia alaskana



Douglasia gormanii



Douglasia laevigata var. *ciliolata*

GLAUX[21]

***Glaux maritima* L.**

sea-milkwort

HABITAT/RANGE:

Tideflats, coastal marshes and beaches, interior alkaline marshes and wet meadows in the lowland, steppe and montane zones; common in coastal, NC and E BC, less frequent elsewhere; circumpolar, widespread in arctic and temperate NA; Eurasia.

DESCRIPTION:

General: Perennial fleshy herb from a shallow rhizome, smooth and often glaucous throughout; stems ascending-erect, several, branched from below, 3-30 cm tall, leafy to the tip.

Leaves: Basal leaves lacking; stem leaves crowded, opposite below and alternate above, unstalked, egg-shaped to oblong, 5-25 mm long, 1.5-10 mm wide, jointed at the bases, blunt to barely pointy-tipped.

Flowers: Inflorescence of small, inconspicuous, solitary, axillary, unstalked to stalked flowers; corollas membranous and much shorter than the calyces or lacking; calyces cup-shaped, 4-5 mm long, white or pinkish, 5-lobed, the lobes petal-like, egg-shaped, about equalling the tubes; stamens 5, alternate with the calyx lobes.

Fruits: Capsules, about 2.5 mm long, opening by valves the full length; seeds several, flattened, shed with the placenta as a unit.

Notes: Two subspecies occur in BC:

1. Leaves egg-shaped to oblong, length to width ratios of more than 3.25, rounded at the tips; habit more or less erect; plants strictly coastal .... ssp. *obtusifolia* (Fern.) Boivin
1. Leaves narrower, length to width ratios of 3.0 or less, pointed at the tips; habit more or less prostrate; plants of NC and E BC .... ssp. *maritima*

LYSIMACHIA[22]

1. Flowers solitary, axillary.
    2. Stems creeping .... *L. nummularia*
    2. Stems erect .... *L. ciliata*
1. Flowers not solitary and axillary.
    3. Plants hairy; leaves mostly in whorls of 3 or 4; corollas without streaks or black dots.
        4. Flowers generally 3-5 in small, leafy, stalked groups in leaf axils; corollas large, 10-16 (18) mm wide; styles persistent .... *L. punctata*
        4. Inflorescence branching, with younger flowers borne at the tips, leafy-bracted; corollas smaller, 8-11 (13) mm wide; styles deciduous .... *L. vulgaris*
    3. Plants smooth; leaves opposite; corollas more or less streaked or dotted with red or purplish-black spots.
        5. Inflorescence a terminal, loose, leafy-bracted, flower stalks 1-2 cm long; corollas deep yellow; filaments fused at the base, shorter than corolla lobes .... *L. terrestris*
        5. Inflorescence short, dense, slender, stalked, spike-like clusters in the axils of the two or three larger leaves near mid-stem, the individual flowers crowded and practically unstalked; corollas pale yellow; filaments distinct, exceeding the corolla lobes .... *L. thyrsiflora*

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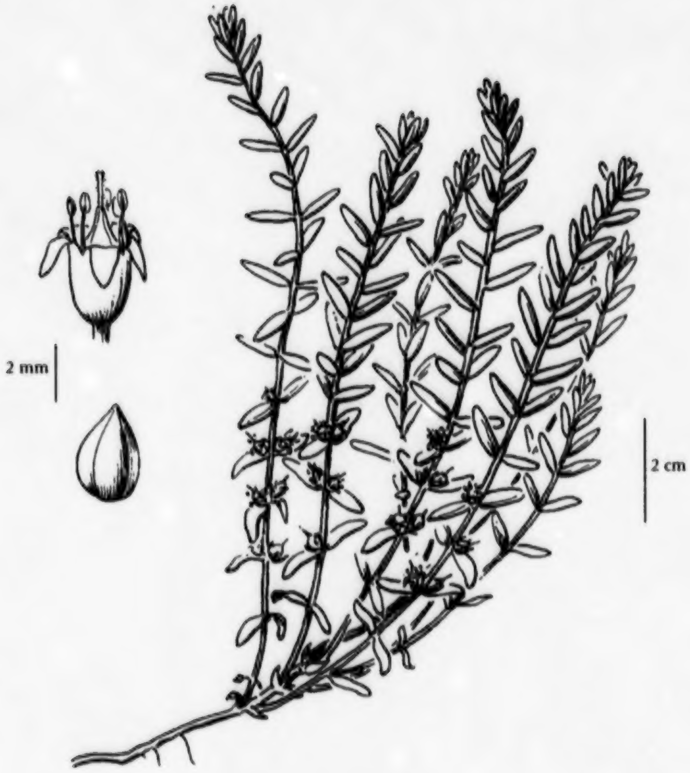
[21] Key adapted from Calder and Taylor (1968).

[22] Key adapted from Hitchcock and Cronquist (1973).



Glaux maritima

Lysimachia ciliata **L. (*Steironema ciliatum* [L.] Baudo)**

fringed loosestrife

HABITAT/RANGE:

Wet to moist meadows, pond edges, and streambanks in the montane zone; common in SC and SE BC and rare in the lower Fraser Valley; E to NS and S to OR, CO, TX, FL.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems erect, solitary, simple, not dotted with dark spots, 30-120 cm tall.

Leaves: Basal leaves lacking; stem leaves opposite, egg-shaped to broadly lanceolate, 5-15 cm long, 2.5-6 cm wide, finely fringed with hairs or teeth, gradually tapering to slender points, rounded to heart-shaped at the bases, the stalks 5-20 mm long, usually conspicuously fringed with hairs.

Flowers: Inflorescence of single, axillary flowers on slender, arched stalks 3-8 cm long; corollas yellow, wheel-shaped, the short tubes spreading flat to 5 lobes, the lobes more-or-less egg-shaped, 9-15 mm long, the margins irregular or eroded and usually abruptly sharp-pointed at the tips, densely reddish, glandular short-hairy near the bases within; calyces 5-lobed, the lobes lanceolate, 5-7 mm long; stamens 5, alternating with minute, sterile stamens, the filaments shorter than the anthers, distinct, short-hairy like the corollas, the anthers about 3 mm long.

Fruits: Capsules, nearly egg-shaped, nearly equal to the calyces, breaking into valves at dispersal.

Lysimachia nummularia **L.**

creeping loosestrife; creeping jenny

HABITAT/RANGE:

Moist roadsides and other disturbed areas in the lowland and steppe zones; infrequent on Vancouver Island and the Fraser Valley; rare in SC BC; introduced from Europe.

DESCRIPTION:

General: Perennial herb from a rhizome, creeping and rooting at the nodes; stems prostrate, several, simple, smooth or nearly so, dotted with red-black spots, 20-60 cm long.

Leaves: Basal leaves lacking; stem leaves opposite, almost circular in outline to oblong- egg-shaped, 1-3 cm long, nearly as wide with short stalks.

Flowers: Inflorescence of solitary, axillary flowers on stalks 1-3 cm long; corollas yellow, saucer-shaped, deeply 5-lobed, the lobes 8-12 mm long, fringed with small, glandular hairs, glandular-hairy near the bases on the upper surfaces, dotted with black spots; calyces 5-lobed, the lobes heart-shaped to lanceolate, 6-9 mm long; stamens exserted, the filaments glandular-hairy, unequal, several times the length of the anthers, short-fused at the bases; sterile stamens lacking.

Fruits: Capsules, included in the calyces, breaking into valves at dispersal.

Lysimachia punctata **L.**

spotted loosestrife

HABITAT/RANGE:

Moist roadsides and ditches in the lowland zone; infrequent garden escape in BC west of the Coast-Cascade Mountains; introduced from Europe.

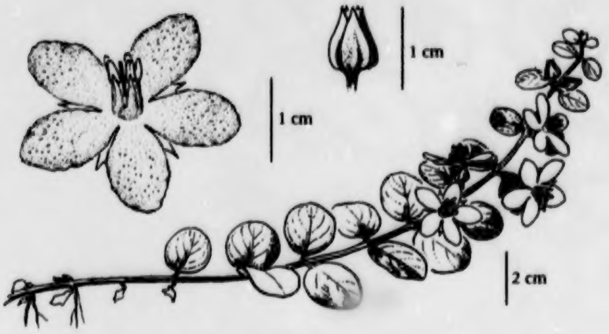
DESCRIPTION:

General: Perennial herb from a rhizome; stems erect, several, simple, slightly if at all dotted with reddish- or purplish-black spots, densely glandular-hairy, 60-120 cm tall.

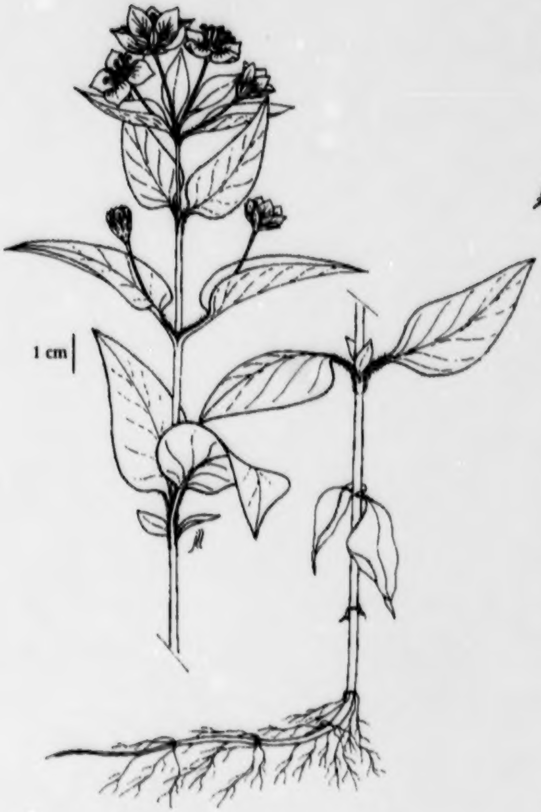
Leaves: Basal leaves lacking; stem leaves in whorls of 3 or 4, broadly lanceolate.

Flowers: Inflorescence of axillary whorled flowers, 3-5 per axil in the upper part of the stems, leafy or on short branches; corollas uniformly yellow, 10-16 (18) mm wide, without streaks or dots, cup-shaped, 5-lobed, the 5-lobes glandular-fringed with small hairs; calyces green throughout, 5-lobed, the lobes to 10 mm long, the filaments fused at the bases, sterile stamens lacking; styles persistent.

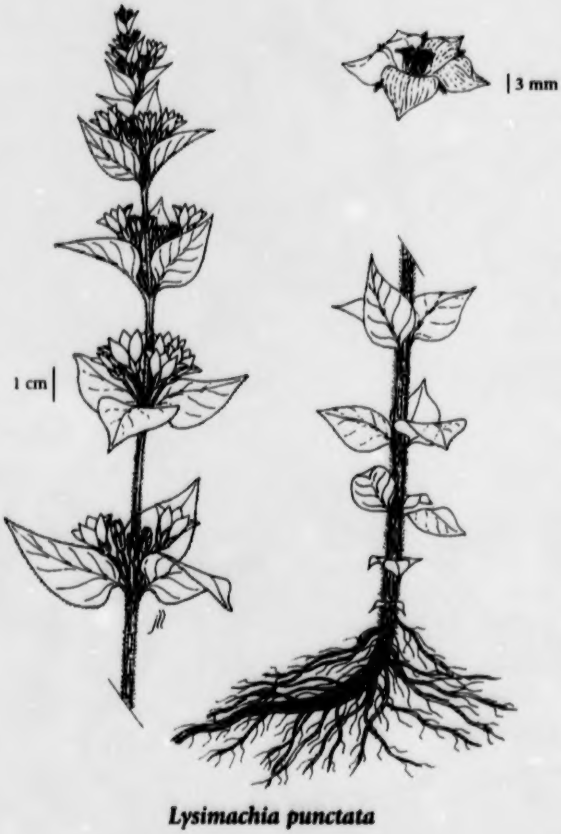
Fruits: Capsules, breaking into valves at dispersal; seeds few.



Lysimachia nummularia



Lysimachia ciliata



Lysimachia punctata

Lysimachia terrestris **(L.) Britt., Stearns & Poggin**

bog loosestrife

HABITAT/RANGE:

Bogs, swamps and wet ditches in the lowland zone; infrequent on Vancouver Island and adjacent lower mainland; introduced from E North America.

DESCRIPTION:

General: Perennial herb from a rootstock; stems erect, solitary, simple, smooth, reddish- to purplish-black streaked, 20-90 cm tall.

Leaves: Basal leaves lacking; stem leaves opposite, the lowermost leaves unstalked, clasping-based, 5-15 mm long, the upper leaves linear-lanceolate to narrowly elliptic or lanceolate, 3-8 cm long, short-stalked, dotted with black spots, with small, dark bulblets produced in the leaf axils.

Flowers: Inflorescence a terminal, loose, leafy-bracted, simple to compound, elongate cluster, the individual flowers on stalks arranged on a single axis, the lower flowers often whorled, the flower stalks slender, 1-2 cm long; corollas deep yellow, saucer-shaped, streaked with red or purplish-black spots, deeply 5-lobed, the lobes oblong to lanceolate, 4-8 mm long; calyces 5-lobed, the lobes lanceolate, 2-4 mm long; filaments about 3 mm long, fused at the bases, shorter than the corolla lobes; sterile stamens lacking.

Fruits: Capsules, breaking into valves at dispersal; seeds few, chocolate brown, very finely pitted.

Lysimachia thyrsiflora **L.**

tufted loosestrife

HABITAT/RANGE:

Marshes, swamps, lakeshores and wet ditches in the lowland and montane zones; frequent throughout BC; N to AK and YT, E to PQ and S to MO and WV.

DESCRIPTION:

General: Perennial herb from a creeping rhizome, finely dark-purplish or -blackish spotted almost throughout; stems erect, solitary, simple, smooth, 20-80 cm tall.

Leaves: Basal leaves lacking; stem leaves opposite, unstalked, the upper leaves linear-lanceolate to elliptic-lanceolate, narrowed gradually to the bases, long-tapering to points, as much as 15 cm long, the lowermost leaves greatly reduced.

Flowers: Inflorescence short, dense, slender, stalked, spike-like clusters in the axils of the two or three larger leaves near mid-stem, the individual flowers crowded and nearly unstalked; corollas pale yellow, dotted with red or purplish-black spots, 4-6 mm, deeply 5-lobed, the lobes somewhat clawed at the bases, linear-lanceolate, about twice the length of the calyces, sparingly spotted near the tips, sometimes bearing tiny toothlike, flat structures resembling fish scales just below each notch; calyces 5-lobed, the lobes lanceolate, 2-3 mm long, smooth, spotted; filaments distinct, exceeding the corolla lobes, smooth; styles about equalling the stamens; styles and ovaries spotted; sterile stamens lacking.

Fruits: Capsules, breaking into valves at dispersal, about 2.5 mm long; seeds few.

Lysimachia vulgaris **L.**

yellow loosestrife

HABITAT/RANGE:

Wet roadsides in the lowland zone; rare garden escape on S Vancouver Island and around Vancouver; introduced from Europe.

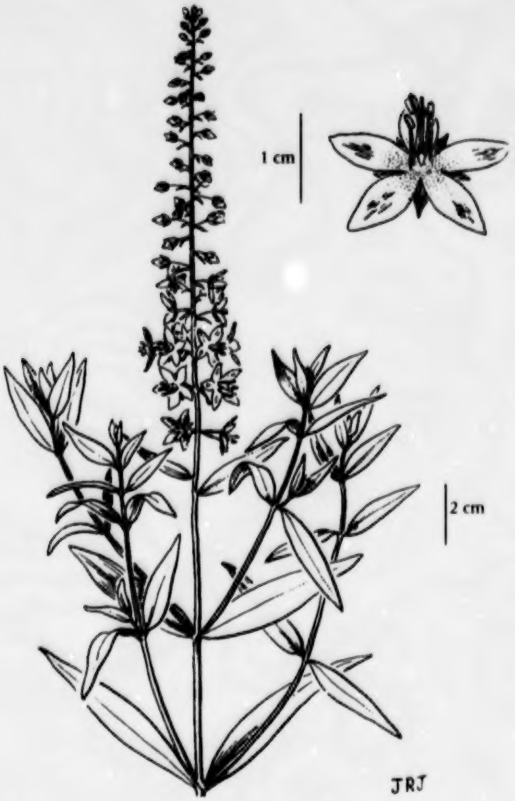
DESCRIPTION:

General: Perennial herb; stems erect or ascending, solitary, simple or branched below, slightly if at all dotted with reddish or blackish spots, densely glandular-hairy, 60-150 cm tall.

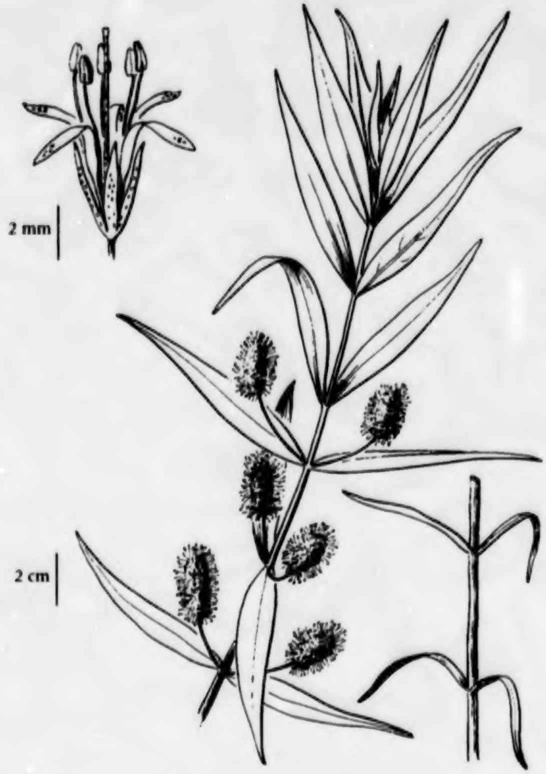
Leaves: Basal leaves lacking; stem leaves opposite or in whorls of 3 or 4, lanceolate to narrowly elliptic, dotted with reddish or blackish spots, 3-10 cm long.

Flowers: Inflorescence branching, with younger flowers borne at the tips, leafy-bracted; corollas uniformly yellow, without streaks or dots, 8-11 (13) mm wide, 5-lobed, the lobes entire; calyces 5-lobed, the lobes at most about 5 mm long, dark-margined; styles deciduous; filaments fused at the bases; sterile stamens lacking.

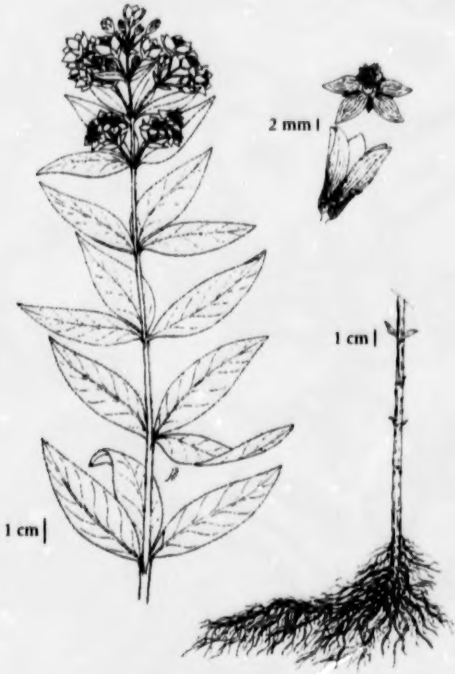
Fruits: Capsules, breaking into valves at dispersal; seeds few.



Lysimachia terrestris



Lysimachia thyrsiflora



Lysimachia vulgaris

PRIMULA

1. Involucral bracts with distinct earlike lobes at bases; leaf blades elliptic to spherical, long-stalked .... *P. nutans*

1. Involucral bracts flat to sac-shaped, without distinct earlike lobes at bases; leaf blades and stalks various.

  2. Leaves oblanceolate to egg-shaped, with 5-11 coarse teeth towards the tips; corollas large, more than 15 mm wide; plants not whitish-mealy .... *P. cuneifolia*

  2. Leaves various shapes, entire to wavy to toothed but without conspicuous coarse teeth toward the tips; corollas mostly smaller, 10 mm or less wide; plants either whitish-mealy or not.

    3. Plants robust, strongly whitish mealy; leaves oblanceolate to spade-shaped, tapering to wide stalks; involucral bracts flat to slightly swollen at the bases; corolla lobes 2-3 mm long, shorter than the tubes, deeply 2-cleft .... *P. incana*

    3. Plants not whitish-mealy to slightly whitish-mealy; leaves and involucral bracts various; corolla lobes 2-8 mm long, 2-cleft or not.

      4. Leaves more or less oblong, entire to slightly wavy, narrowing abruptly to long, slender stalks; involucral bracts sac-shaped at the bases .... *P. egaliksensis*

      4. Leaves oblanceolate to spade-shaped, mostly distinctly toothed to obscurely wavy-toothed, tapering gradually to wide stalks; involucral bracts various.

        5. Involucral bracts flat; corollas (8) 10-20 mm wide, pink to violet, rarely white with conspicuous yellow eyes in the throats; corolla lobes deeply cleft .... *P. mistassinica*

        5. Involucral bracts sac-shaped; corollas 5-11 mm wide, pink or lilac without conspicuous eyes in the throats; corolla lobes shallowly notched at the tips .... *P. stricta*

Primula cuneifolia **Ledeb. ssp.** ***saxifragifolia*** **(Lehm.) W.W. Smith & Forrest**
wedge-leaf primrose

HABITAT/RANGE:

Moist to wet meadows in the subalpine and alpine zones; amphiberingian, rare in W and NW BC and on NW Vancouver Island; N to AK; E Asia.

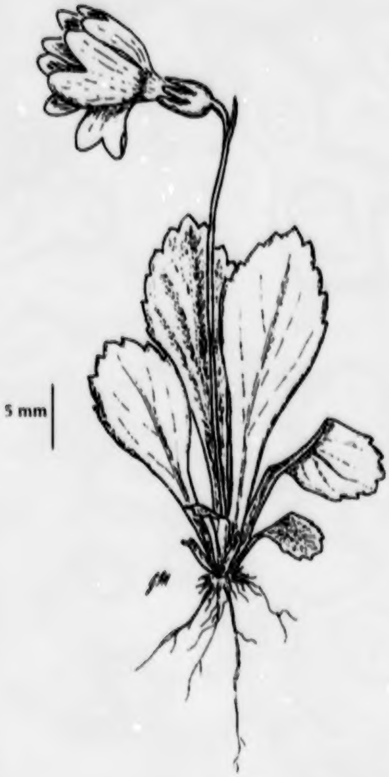
DESCRIPTION:

General: Perennial herb from a fibrous root, not whitish-mealy; stem erect, solitary, simple, not whitish-mealy, the upper portion glandular-hairy, 2-10 cm tall.

Leaves: Basal leaves oblanceolate to egg-shaped, 1-8 cm long, 0.5-2 cm wide, glandular-fringed with fine hairs, with 5-11 coarse teeth towards the tip, the stalks inconspicuous; stem leaves lacking.

Flowers: Inflorescence a small, terminal, involucrate umbel of 1-4 stalked flowers, the stalks 1-10 mm long, glandular-hairy; corollas pink to rose or white, 10-20 (24) mm wide, tubular, funnel-shaped and flaring to 5 lobes, the lobes 2-cleft at the tips; calyces 3-6 mm long, toothed, the teeth longer than the tubes, glandular-hairy; bracts lanceolate to awl-like, not sac-shaped, without earlike appendages at the bases, glandular-hairy.

Fruits: Capsules, nearly spherical, shorter than the calyces; seeds angled.



Primula cuneifolia* ssp. *saxifragifolia

Primula egaliksensis **Wormsk. *ex* Hornem.**

Greenland primrose

HABITAT/RANGE:

Wet meadows, streambanks, shores and marshes in the upper montane to alpine zones; infrequent in N and SE BC; N to AK, YT and NT, E to NF and S to CO.

DESCRIPTION:

General: Perennial herb from a fibrous root, not whitish-mealy; stems erect, solitary, simple, 5-25 cm tall.

Leaves: Basal leaves egg-shaped, oblong, oblanceolate, or spade-shaped, 0.5-5 cm long, 0.2-1.5 cm wide, entire or slightly wavy, narrowing abruptly to long, slender stalks, 1.5-5.5 cm long.

Flowers: Inflorescence a compact, terminal, involucrate umbel of 1 to 6 stalked flowers, the stalks 2-3 mm long; corollas white or violet with yellow throats, 5-9 mm wide, the funnel-shaped tubes 6-8 mm long, flaring to 5 lobes, the lobes shorter than the tubes, 2-8 mm long, notched, or 2-cleft at the tips; calyces cylindrical, 4-9 mm long, green or with purple stripes, 5-lobed about 1/3 to 1/2 their lengths, the lobes shorter than the tubes, sometimes whitish-mealy inside, glandular-fringed with fine hairs; bracts lanceolate, 2-6 mm long, sac-shaped at the bases.

Fruits: Capsules, narrowly cylindric, at maturity 2-3 times longer than the calyces; seeds smooth.

Primula incana **M.E. Jones** (*P. farinosa* L. var. *incana* Fern.)

mealy primrose

HABITAT/RANGE:

Moist streambanks, shores, meadows and ledges in the montane to subalpine zones; infrequent in E and N BC; N to AK, YT and NT, E to PQ and S to CO and UT.

DESCRIPTION:

General: Perennial herb from a fibrous root, strongly whitish-mealy; stems erect, solitary, simple, 6-40 cm tall.

Leaves: Basal leaves oblanceolate to spade-shaped, 3-8 cm long, finely sharp-toothed, the stalks widely winged; stem leaves lacking.

Flowers: Inflorescence a compact, headlike, terminal, involucrate umbel of 5-15 flowers; corollas lilac with yellow throats, 6-10 mm across, the funnel-shaped tubes 8-11 mm long, flaring to 5 lobes, the lobes 2-3 mm long shorter than the tubes, deeply 2-cleft, the small scale-like appendages in the throats of the corollas inconspicuous, the tubes as long or slightly longer than the calyces; calyces 4-7 mm long, lobed about 1/3 of their lengths, the 5 lobes lanceolate, slightly shorter than the corollas, covered with headlike, 3- or 4-celled glands; bracts several, linear-lanceolate, flat to slightly swollen at the bases, 5-10 mm long.

Fruits: Capsules, cylindrical to somewhat egg-shaped, slightly longer than calyces; seeds roughened.

Primula mistassinica **Michx.** (*P. maccalliana* Wieg.)

Mistassini primrose

HABITAT/RANGE:

Moist meadows, streambanks and shores in the montane zone; rare in NE and SE BC; N to AK, YT and NT, E to NF and S to ME and NH.

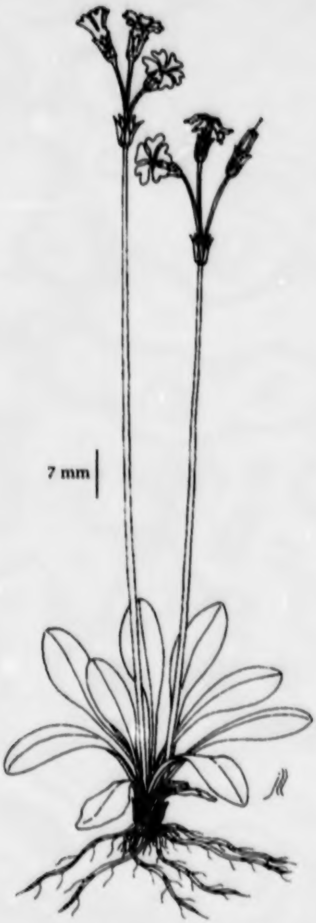
DESCRIPTION:

General: Perennial herb from a fibrous root, smooth; stems erect, solitary, simple, 5-20 cm tall.

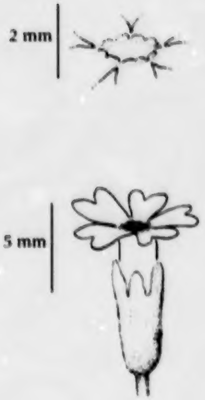
Leaves: Basal leaves oblanceolate to spade-shaped, 0.5-7 cm long, 0.2-1.6 cm wide, often distinctly toothed to wavy-toothed, tapering to wide stalks, sometimes whitish-mealy; stem leaves lacking.

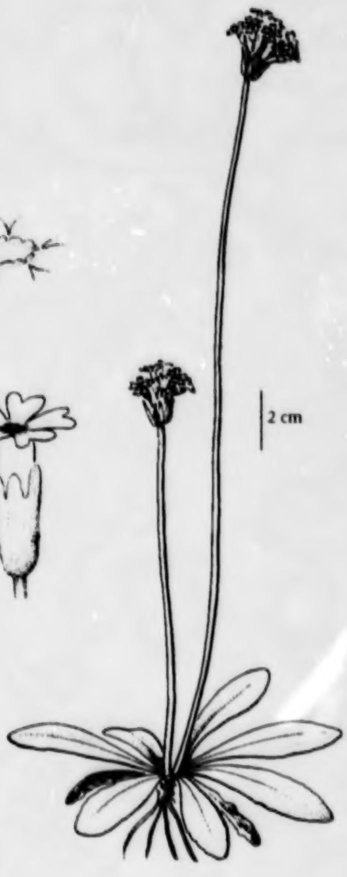
Flowers: Inflorescence a compact, terminal, involucrate umbel of 1-5 (10) stalked flowers, the stalks 2-35 mm long; corollas pink to violet (rarely white) with conspicuous yellow eyes in the throats, (8)10-20 mm wide, the tubes longer than the calyces, 5-8 mm long, flaring to 5 notched lobes; 2-8 mm long; calyces bell-shaped to saucer-shaped, 3-5 mm long, lobed, the 5 lobes equalling or longer than the tubes and 1/2 the length of the calyces, with some headlike glands; bracts lanceolate, the ends sharp-pointed or blunt, 2-6 mm long, usually not sac-shaped at the bases.

Fruits: Capsules, cylindric or nearly so, 1- to 2-times longer than the calyces; seeds smooth or nearly so.

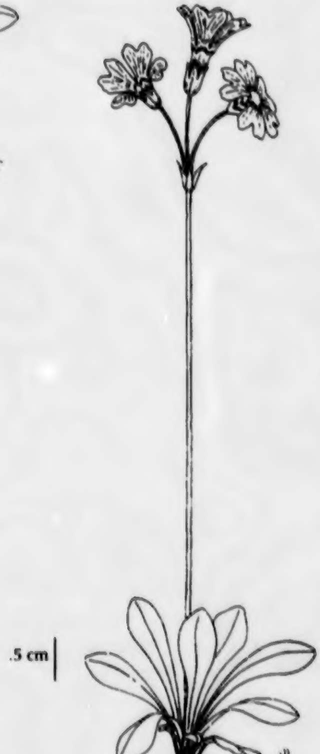


Primula egaliksensis





Primula incana



Primula mistassinica

***Primula nutans* Georgi** (*P. sibirica* Jacq., *P. clusiana auct. non* Taush)

Siberian primrose

HABITAT/RANGE:

Hotsprings and moist beaches in the montane to subalpine zones; rare in N BC; circumpolar, N to AK and YT; Eurasia.

DESCRIPTION:

General: Perennial herb from a fibrous root and woody stem-base, occasionally from a rhizome, not whitish-mealy; stems erect, few, simple, 5-20 cm tall.

Leaves: Basal leaves elliptic to egg-shaped, or oblanceolate, 1-7 cm long, 0.3-1.3 cm wide, entire to irregularly toothed, the blades usually shorter than the long, narrow, winged stalks, not whitish-mealy; stem leaves lacking.

Flowers: Inflorescence a compact, terminal, involucrate umbel of 2 to 4 stalked flowers, the stalks 3-50 mm long, somewhat arched; corollas pink purple (rarely white) with yellow throats, 10-18 mm wide, the funnel-shaped tubes longer than the calyces, 7-10 mm long, spreading to 5 notched lobes shorter or longer than the tubes; calyces 5-8 mm long, 5-toothed, the teeth shorter than the tubes, not whitish mealy; bracts oblong to oblanceolate, 2-11 mm long, rounded, or rarely blunt-tipped, conspicuously sac-shaped and with earlike appendages at the bases.

Fruits: Capsules, narrowly cylindrical, from slightly exserted to twice as long as the calyces.

***Primula stricta* Hornem.**

upright primrose

HABITAT/RANGE:

Moist to wet river banks, fens and sometimes saline wetlands in the montane to subalpine zones; rare in SE and NE BC, known only from Kootenay National Park and the Turnagain River area; circumpolar, N to AK, YT and NT, E to NF; Greenland, Iceland and Europe.

DESCRIPTION:

General: Perennial herb from a fibrous root; stems erect, solitary, 5-30 cm tall.

Leaves: Basal leaves oblanceolate, 0.5-4 cm long, 0.2-1.5 cm wide, smooth to irregularly-toothed, tapering to wide stalks, not or only slightly whitish-mealy below; stem leaves lacking.

Flowers: Inflorescence a compact, terminal, involucrate umbel of 2-8 stalked flowers, the stalks 3-20 mm long or more; corollas pink or lilac without conspicuous eyes in the throats, the tubes longer than the calyces, 5-11 mm wide, flaring to 5 lobes, the lobes equalling or shorter than the tubes and shallowly notched at the tips; calyces 4-6 mm long, 5-lobed, the lobes about half as long as the tubes, 2-8 mm long, not whitish-mealy; bracts lanceolate to awl-like, 3-8 mm long, sac-shaped or swollen at the bases.

Fruits: Capsules, only slightly longer than the calyces; seeds angled.

TRIENTALIS[23]

1. Primary stem leaves lanceolate, oblanceolate or egg-shaped, rather abruptly sharp-pointed to blunt, 1-5 (8) cm long; reduced leaves scattered along stem below the terminal whorl; corollas usually white, 10-16 mm wide; flower stalks longer than main leaves; tubers not conspicuously enlarged, horizontal .... *T. europaea* ssp. *arctica*

1. Primary stem leaves broadly egg-shaped to elliptic, gradually tapering to sharp points, 3-10 cm long, all others reduced to tiny bracts along the stem below the terminal whorl, corollas pinkish to rose, or somewhat pinkish-lavender, 8-15 mm wide; flower stalks shorter than leaves; tubers 1-2 cm, ascending to erect .... *T. borealis* ssp. *latifolia*

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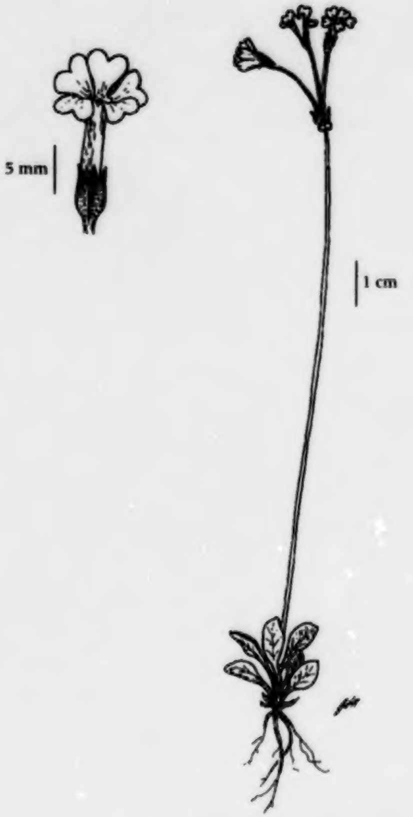
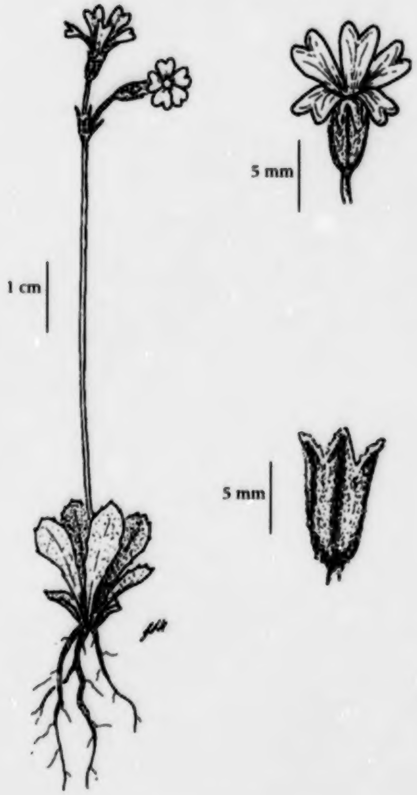
[23] Key adapted from Hitchcock and Cronquist (1973).



Primula nutans



Primula stricta

Trientalis borealis **Raf. ssp.** ***latifolia*** **(Hook.) Hult.** (*T. latifolia* Hook.; *T. europaea* L. var. *latifolia* (Hook.) Torr.)
broad-leaved starflower; western starflower

HABITAT/RANGE:

Moist to mesic woods and prairies in the lowland and montane zones; infrequent in S BC, rare northward; N to YT, E to AB and S to ID and N CA.

DESCRIPTION:

General: Perennial herb from a usually erect tuber, the tuber 1-2 cm long, up to 6 mm wide, ascending to erect; stems ascending to erect, solitary, simple, 10-25 cm tall.

Leaves: Basal leaves lacking; stem leaves near the top in a whorl, the (3) 4-8 primary stem leaves of the terminal tier broadly egg-shaped-elliptic, 3-10 cm long, 1.5-4 cm wide, lower stem leaves scale-like.

Flowers: Inflorescence of one to a few flowers on slender stalks shorter than the leaves in the axils of the uppermost leaves; corollas pinkish to rose or somewhat pinkish-lavender, saucer-shaped, 8-15 mm wide, of 5 to 9 petals united at the bases in very short tubes; calyces 5- to 9-lobed nearly to the bases.

Fruits: Capsules, 5-valved, spherical; seeds few, white net-veined.

Trientalis europaea **L. ssp.** ***arctica*** **(Fisch. ex Hult.) Hult.** (*T. arctica* Fisch. *ex* Hook.; *T. europaea* L. ssp. *arctica* (Fisch. *ex* Hook) Ledeb.)
northern starflower

HABITAT/RANGE:

Moist bogs and swamps in the lowland to subalpine zones; frequent throughout BC; N to AK, YT and NT, E to AB, and S to ID and OR.

DESCRIPTION:

General: Perennial herb from a slender rhizome and short, horizontal tuber, the tuber not conspicuously enlarged; stems ascending to erect, solitary, simple, 5-20 cm tall.

Leaves: Basal leaves lacking; primary stem leaves 3-8, lanceolate, oblanceolate or egg-shaped, 1-5 (8) cm long, in a crowded terminal whorl, the lower ones reduced below.

Flowers: Inflorescence of one to a few flowers on slender stalks in the axils of the main leaves; corollas usually white, saucer-shaped, 10-16 mm wide, of 5 to 9 petals united at the base in very short tubes; calyces 5- to 9-lobed nearly to the bases.

Fruit: Capsules, 5-valved, spherical; seeds few, white net-veined.

PYROLACEAE[24]

1. Stems leafy; leaves elliptic to oblanceolate; flowers in umbel-like clusters; styles nearly obsolete .... *Chimaphila*

1. Stems not leafy; leaves nearly circular; flowers single or in racemes; styles distinct.

   2. Flowers solitary, waxy-white (or pinkish); petals widely spreading .... *Moneses*

   2. Flowers numerous, in racemes, greenish or white, pinkish or red; petals arching.

      3. Inflorescence one-sided; petals forming a bell-shaped corolla .... *Orthilia*

      3. Inflorescence not one-sided; petals widely spreading .... *Pyrola*

CHIMAPHILA

1. Flowers generally 1 to 3; stamen filaments hairy over entire swollen portion of base; leaves lanceolate to elliptic .... *C. menziesii*

1. Flowers usually more than 3; stamen filaments hairy on margins only at the swollen portion of the base; leaves oblanceolate .... *C. umbellata*

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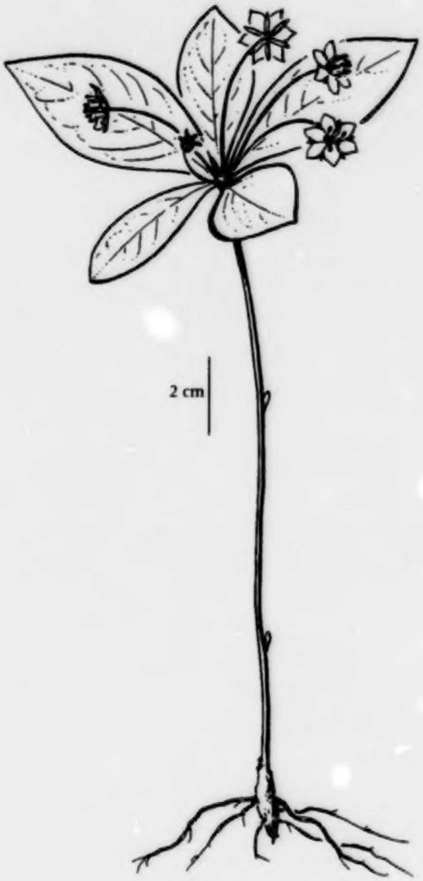
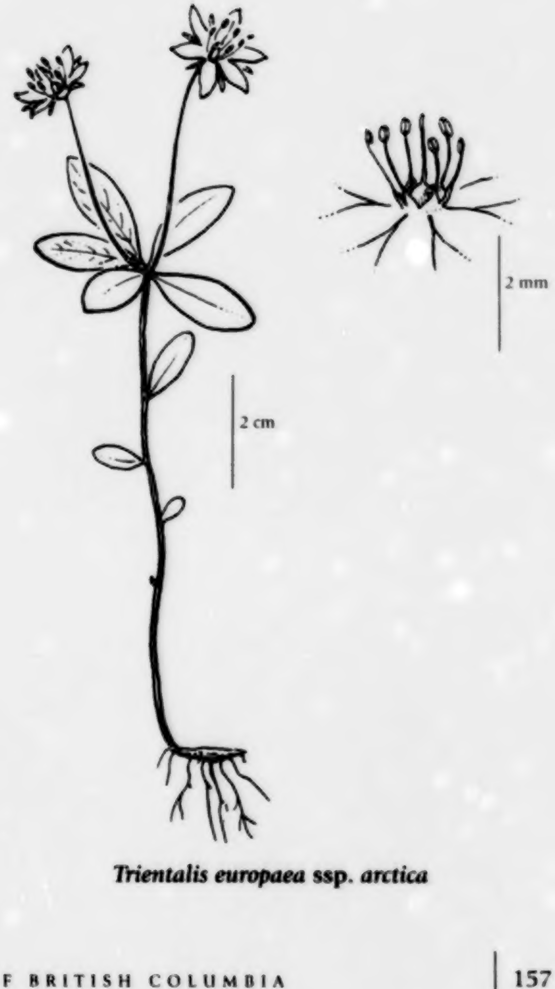
[24] Contributed by Del Meidinger.



Trientalis borealis ssp. *latifolia*



Trientalis europaea ssp. *arctica*

Chimaphila menziesii **(R. Br. *ex* D. Don) Spreng.**

Menzies' pipsissewa

HABITAT/RANGE:

Mesic to dry forests in the lowland and montane zones; infrequent in SW BC, rare in SE BC; S to CA.

DESCRIPTION:

General: Perennial, slightly woody herb from a rhizome; stems slender, erect or nearly so, simple or sparingly branched, 5-20 cm tall, smooth, reddish.

Leaves: Generally all stem leaves, 1 to several per whorl, leathery, evergreen, lanceolate to elliptic, 2-6 cm long, toothed or entire, smooth, main veins somewhat white-bordered; stalks 5-8 mm long.

Flowers: Inflorescence of 1 to 3 nodding flowers in terminal umbel-like cluster, flower stem more or less smooth to pimply; flower stalks 2-6 cm long; bracts widely egg-shaped, dry and translucent, usually persistent after flowering; petals 5, distinct, 5-7 mm long, white or pinkish, waxy, spreading, nearly circular, concave; sepals 5, distinct, rounded, margins jagged, about 5 mm long; ovaries superior; styles in depressed centre of ovary; stamens 10; filament bases widened and swollen, completely hairy.

Fruits: Capsules, globe-shaped, 5 mm wide.

Chimaphila umbellata **(L.) Bart. ssp. *occidentalis* (Rydb.) Hult.** (*C. occidentalis* Rydb.)

prince's pine; pipsissewa

HABITAT/RANGE:

Mesic to dry forests in the montane zone; common in S BC, infrequent northward; N to SE AK, E to C AB and SK, scattered to James Bay, ON, and S to CA, NM, CO.

DESCRIPTION:

General: Perennial, slightly woody herb from a rhizome; stems stout, erect or nearly so, often branched, 10-30 cm tall.

Leaves: Generally all stem leaves, usually 3-5 per whorl, leathery, evergreen, oblanceolate, 2-7 cm long, 0.5-2.5 cm wide, sharply toothed, tips abruptly pointed, bases tapered; stalks 3-8 mm long.

Flowers: Inflorescence of 3 to 10 nodding flowers in terminal umbel-like cluster, flower stem minutely- and glandular-hairy; flower stalks 4-10 cm long, glandular-hairy; bracts narrowly egg-shaped, deciduous; petals 5, distinct, 4-7 mm long, pinkish to somewhat rose, waxy; sepals 5, distinct, 1-2 mm long, margins jagged-toothed; ovaries superior; styles in depressed centre of ovary; stamens 10, anthers with terminal pores on tubes, the filament bases widened and swollen, only hairy on margins.

Fruits: Capsules, nearly globe-shaped, 5-7 mm wide.

MONESES

Moneses uniflora **(L.) A. Gray** (*Pyrola uniflora* L.)

single delight; one-flowered wintergreen

HABITAT/RANGE:

Mesic forests in the montane zone; infrequent in SC BC, frequent elsewhere in BC; circumboreal, N to AK, YT, and NT, E to NF and S to CA, NM, MN, and PA; Eurasia.

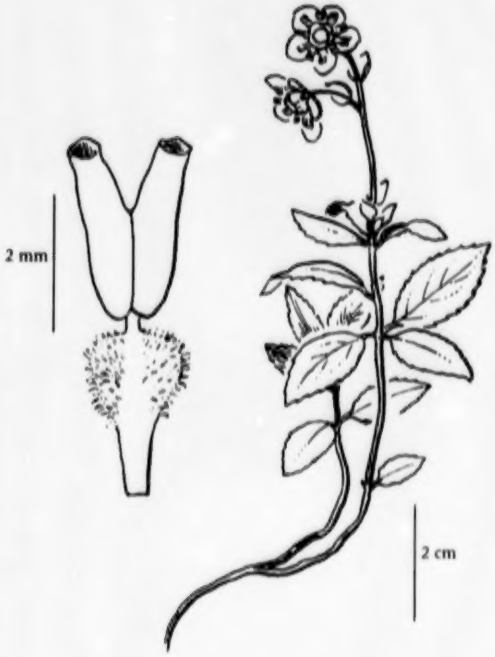
DESCRIPTION:

General: Perennial, slightly woody herb from slender, rhizome-like root; stems erect or nearly so, 3-10 cm tall.

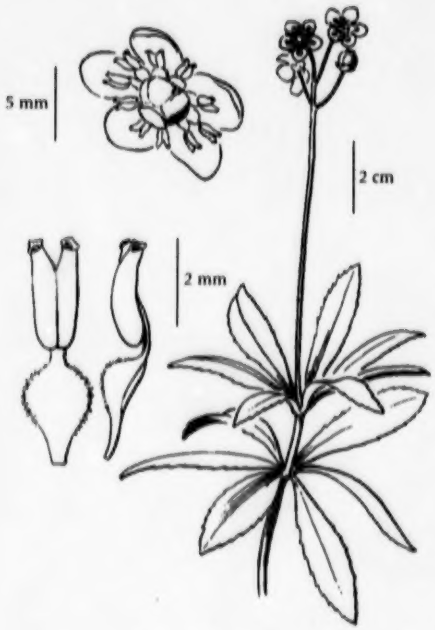
Leaves: Evergreen, more or less basal, egg-shaped, 1-4 cm long including the short stalks, 0.6-2 cm wide, thin, veiny, finely-toothed, tips rounded.

Flowers: Inflorescence a single, terminal, nodding flower, 1.3-2.5 cm wide, fragrant; flower stem pimpled above, bracts 1 or 2, about midlength on naked stem; petals 5, distinct, widely spreading, waxy white to pinkish, lance egg-shaped, 7-11 mm long, entire or minutely-fringed; sepals 5, distinct, 1.5-3 mm long, usually bent back, margins ragged-fringed; styles 2-4 mm long, straight; stigmas large, 5-lobed; stamens 10.

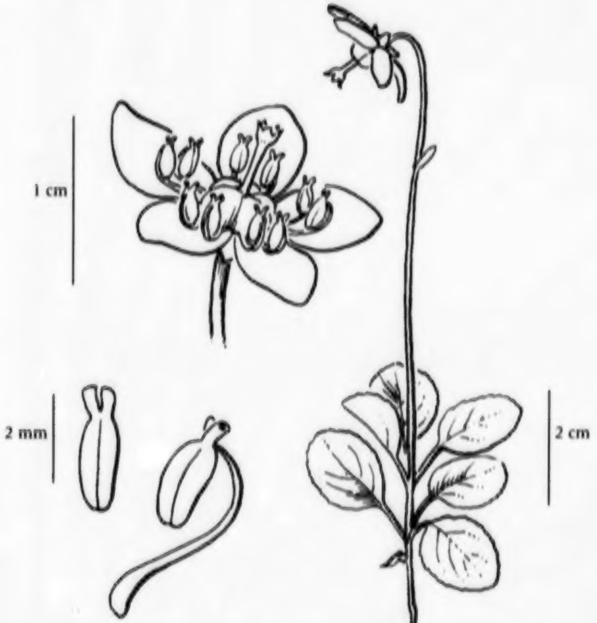
Fruits: Capsules, nearly globe-shaped, 5-8 mm wide.



Chimaphila menziesii



Chimaphila umbellata ssp. *occidentalis*



Moneses uniflora

ORTHILIA

Orthilia secunda **(L.) House** (*Pyrola secunda* L.)
one-sided wintergreen

HABITAT/RANGE:

Dry to mesic forests in the lowland, montane, and subalpine zones; frequent in SC BC, common elsewhere in BC; circumboreal, N to AK, YT, and NT, E to NF and S to S CA, MX, SD, OH, and VA; Eurasia.

DESCRIPTION:

General: Perennial, slightly woody herb from a rhizome, often forming colonies; stems usually single, 5-20 cm tall.

Leaves: Evergreen, basal and stem leaves, often crowded towards base, egg-shaped to egg-shaped elliptic, 1.5-6 cm long, 1-2.5 (3) cm wide; round- to sharp-toothed or nearly entire, blunt to rounded at base, tips usually pointed; stalks 1-2 cm long.

Flowers: Inflorescence a crowded 4- to 20-flowered one-sided raceme, arching, flowers radially symmetric, erect in bud, drooping in flower, 5-6 mm wide; flower stalks 2-8 mm long; bracts linear-lanceolate; petals 5, distinct, somewhat closed, 4-6 mm long, greenish or white, each with 2 small tubercles on the inner surface near the base; sepals 5, 0.5-1 (1.5) mm long, with jagged margins; stamens 10; filaments slender, about equaling the petals; anthers about 1.4 mm long, with terminal pores, tubes lacking; styles 3-4 mm long, exserted, straight or nearly so; stigmas 5-lobed.

Fruits: Capsules, depressed globe-shaped, to 5 mm wide.

Notes: Two varieties occur in BC:

1. Racemes mostly more than 10-flowered; petals greenish yellow; leaves elliptic to egg-shaped, pointed, and lustrous .... var. *secunda*

1. Racemes usually 4- to 10-flowered; petals creamy white; leaves circular, blunt, and hardly lustrous .... var. *obtusata* Turcz.

PYROLA

1. Styles 1-2 mm long, straight or nearly so, without a collar or ring below the stigma; the stamens converging; anthers without horns or tubes, opening by large terminal pores .... *P. minor*

1. Styles 3 mm long or more, bent to one side, often with a collar or ring below the stigma; the stamens not converging; anthers generally opening by small pores at the tip or on the side of short apical tubes.

    2. Flower bracts longer than flower stalks.

        3. Anthers yellow to pink, at most 2.3 mm long; petals mainly white to creamy white with dark veins, translucent, 7-12 mm long .... *P. grandiflora*

        3. Anthers pink to deep purplish-red, to about 3.5 mm long; petals pink to purplish-rose, 5-8 mm long .... *P. asarifolia*

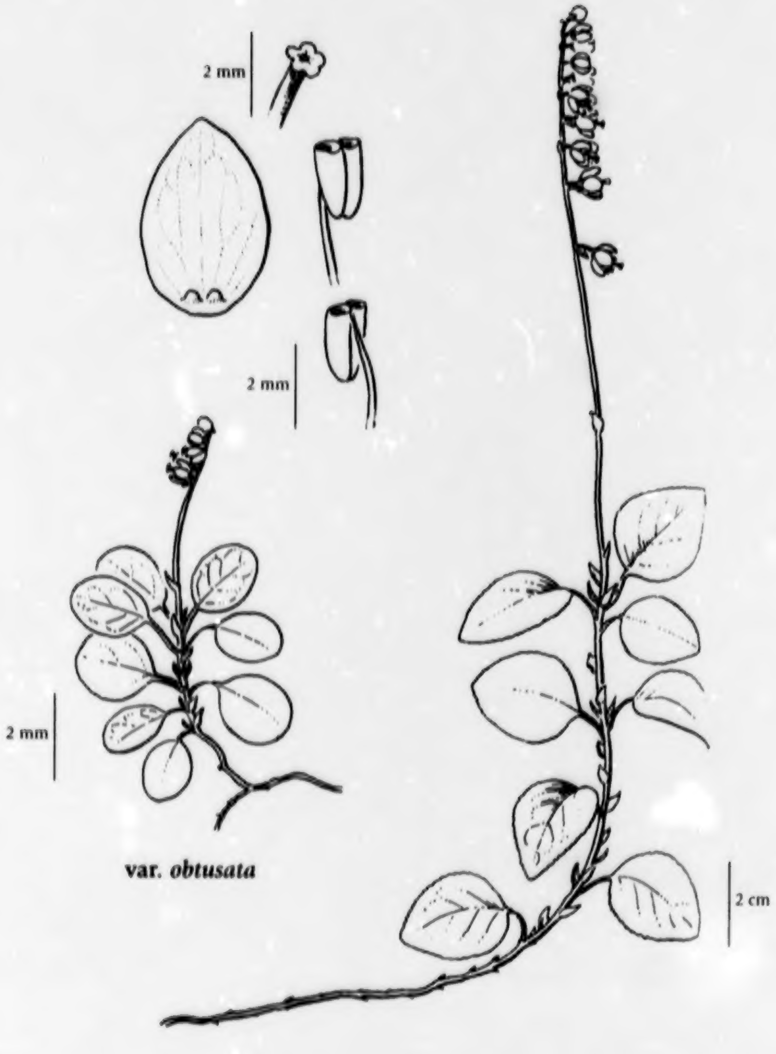
    2. Flower bracts shorter than flower stalks.

        4. Leaves elliptic to egg-shaped and deep green with veins mottled-white above, or spatulate or oblanceolate and not mottled, to 7 cm long; petals yellowish- to greenish-white to purplish .... *P. picta*

        4. Leaves broadly elliptic to egg-shaped or circular but not mottled-white above; petals greenish-white to creamy.

            5. Leaves oblong-elliptic to circular, less than 3.5 cm long; petals converging, 5-6 mm long .... *P. chlorantha*

            5. Leaves elliptic to oblong or egg-shaped, 3.5-7 cm long; petals spreading, 6-8 mm long .... *P. elliptica*


2 mm
2 mm
2 mm
2 cm
var. *obtusata*

Orthilia secunda* var. *secunda

Pyrola asarifolia **Michx.** (*P. asarifolia* ssp. *bracteata* [Hook.] E. Haber, *P. asarifolia* var. *purpurea* [Bunge] Fern.)

pink wintergreen; large wintergreen; common pink wintergreen

HABITAT/RANGE:

Mesic to moist forests, thickets, meadows and heath in the lowland to subalpine zones; common throughout BC, except Queen Charlotte Islands; N to AK, YT, and NT, E to NF, and S to OR, NM, MN, and NH; Asia.

DESCRIPTION:

General: Perennial herb from a rhizome; stems, including flowering-stem, 13-40 cm tall.

Leaves: Basal, evergreen, leathery, round to elliptic or egg-shaped, the blades 2-8 cm long, nearly as wide, commonly heart-shaped at base to rounded or somewhat pointed, rounded to shallowly notched at tip, entire to toothed with veins projecting slightly beyond margin, dark green and shining above, usually somewhat purplish beneath, not mottled; stalks 2-9 cm long.

Flowers: Inflorescence a (5) 8- to 25-flowered, elongate, terminal raceme, the flowers 10-15 mm wide, weakly bilaterally symmetric, open; flower stalks 3-8 mm long, usually shorter than the linear-lanceolate, dry, membranous bracts; petals pinkish to rose or purplish-red, 5-8 mm long; sepals pointed to sharp-pointed, 1.5-5 mm long; anthers pink, 2-3.5 mm long, sharp pointed at the lower end, the tubes short and the pores nearly terminal; styles declined, strongly curved, exserted, 5-8 mm long, with a collar below the stigma.

Fruits: Capsules, globe-shaped, 6-8 mm wide.

Pyrola chlorantha **Sw.** (*P. virens* Schreb.)

green wintergreen; greenish wintergreen

HABITAT/RANGE:

Dry to moist forests in the montane zone; common to frequent throughout BC east of the Coast-Cascade Mountains, infrequent westward; circumboreal, N to AK, YT, and NT, E to NF, and S to CA, AZ, SD, and PA; Eurasia.

DESCRIPTION:

General: Perennial herb from a slender rhizome; flowering stems 9-25 cm tall, single, with 1 to several leaves at the base or sometimes naked; sterile shoots leafy.

Leaves: Basal, evergreen, somewhat leathery, more or less elliptic to oblong-egg-shaped or circular, the blades 1-3.5 cm long, finely toothed, pale green above, deep green below; stalks usually longer than blades.

Flowers: Inflorescence a (1) 2- to 8- (10) flowered terminal raceme, the flowers 9-13 mm wide, weakly bilaterally symmetric, open; flower stalks 3-8 mm long; bracts linear-lanceolate, usually shorter than stalks; petals pale yellowish to greenish-white, 5-6 mm long, converging; sepals triangular egg-shaped, less than 2 mm long, wider than long, tips blunt; anthers 2-4 mm long, the pore-tubes conspicuous; styles declined, curved, exserted, 4-7 mm long, with a distinct collar below the lobed stigma.

Fruits: Capsules, depressed globe-shaped, to 5 mm wide.

Pyrola elliptica **Nutt.**

white wintergreen; shinleaf

HABITAT/RANGE:

Dry to moist forests in the montane zone; rare in SW and C BC; E to NF, and S to NM, SD, and PA; Japan.

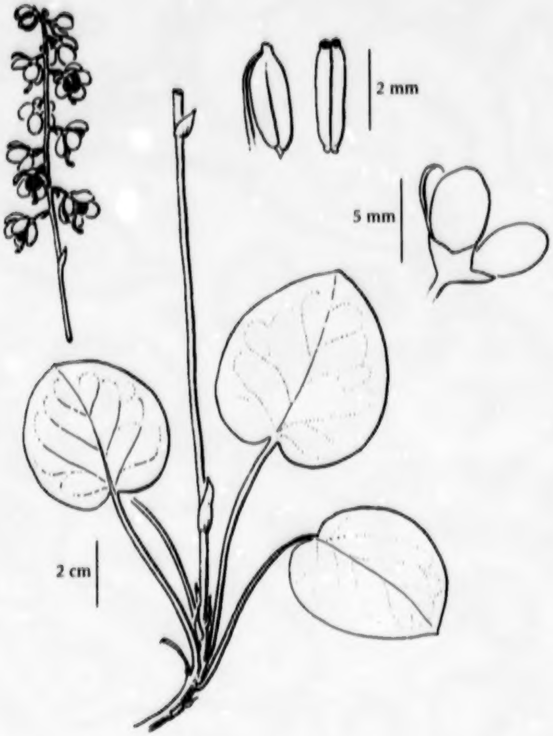
DESCRIPTION:

General: Perennial herb from a spreading, slender rhizome; flowering stems 15-25 cm tall, with many basal leaves.

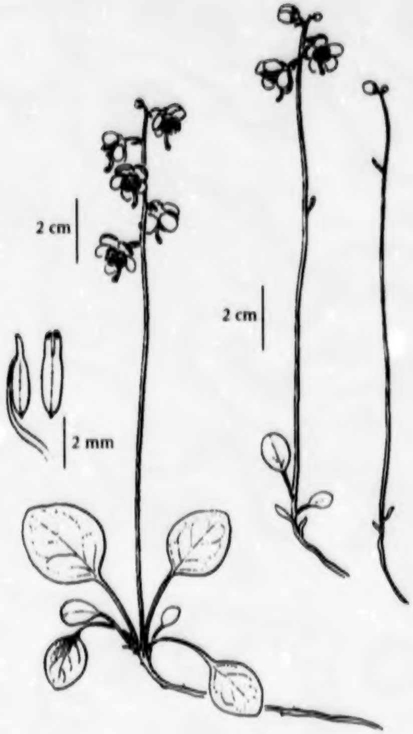
Leaves: Basal, evergreen, somewhat leathery, the blades broadly elliptic to oblong or egg-shaped, mostly 3.5-7 cm long and about 3/4 as wide, fine-toothed, thin, and dull; stalks rarely as long as blades.

Flowers: Inflorescence a 2- to 20-flowered terminal, cylindric raceme, the flowers weakly bilaterally symmetric, 10-12 mm wide; flower stalks 3-8 mm long, nearly equaled by the linear-lanceolate bracts; petals white or creamy, rarely pink-tinged, egg-shaped, spreading, 6-8 mm long; sepals longer than wide, triangular to egg-shaped, tips usually sharp-pointed and somewhat bent back; tubes of anthers short, usually somewhat bent back; styles declined, curved, 5-7 mm long, with a distinct collar below the stigma.

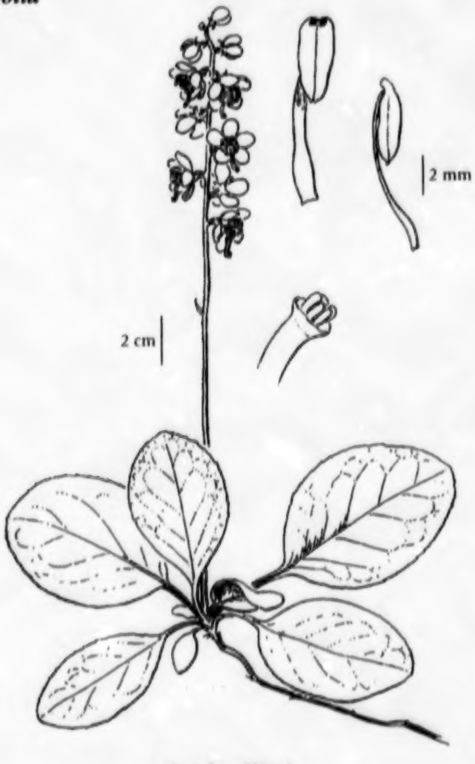
Fruits: Capsules, depressed globe-shaped, 4-5 mm wide.



Pyrola asarifolia



Pyrola chlorantha



Pyrola elliptica

Pyrola grandiflora **Radius**

arctic wintergreen

HABITAT/RANGE:

Moist heath, turfy tundra, thickets, and mossy forests in the montane to alpine zones; infrequent in N BC; circumpolar, N to AK, YT, and NT and E to NF; N Eurasia.

DESCRIPTION:

General: Perennial herb from slender rhizome; flowering stems 5-25 cm tall, single.

Leaves: Evergreen, basal, leathery, lustrous, oval to egg-shaped or circular, the blades 1-4.5 cm long, 1-5 cm wide, from nearly heart-shaped to blunt, rounded, or pointed at base, blunt to rounded at tip, nearly entire to toothed or undulating on margin, green above, often reddish beneath, often whitened along the veins; stalks 1-8 cm long.

Flowers: Inflorescence a 4- to 11-flowered terminal, cylindric raceme, with dry, brown, membranous, broadly lanceolate bracts, the flowers weakly bilaterally symmetric; flower stalks 2-8 mm long; petals broadly rounded, creamy white with some pink, 7-12 mm long; sepals petal-like, purplish with irregular, membranous margins, elliptic-oblong, 2-4 mm long, distinctly veined; anthers about 2 mm long, rounded and rather blunt at the base, yellow to pink, the pores on very short tubes; filaments slender, almost thread-like at the summit; styles up to 6 mm long at maturity, bent at the base, with a collar below the stigma.

Fruits: Capsules, globe-shaped, about 6 mm wide.

Pyrola minor **L.**

lesser wintergreen

HABITAT/RANGE:

Mesic to moist forests in the montane zone; frequent throughout BC, except the Queen Charlotte Islands; N to AK, YT, and NT, E to NF and S to S CA, NM, MN, and MA.

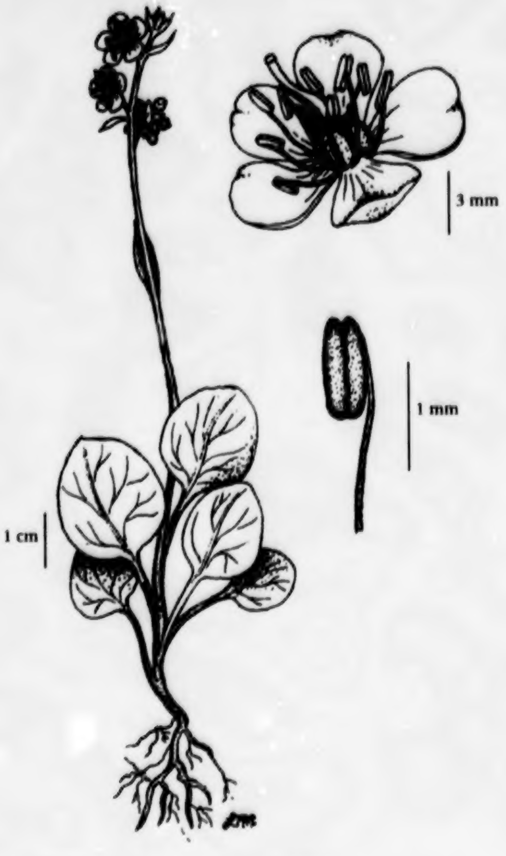
DESCRIPTION:

General: Perennial herb from slender rhizomes; flowering stems usually single, 6-25 cm tall.

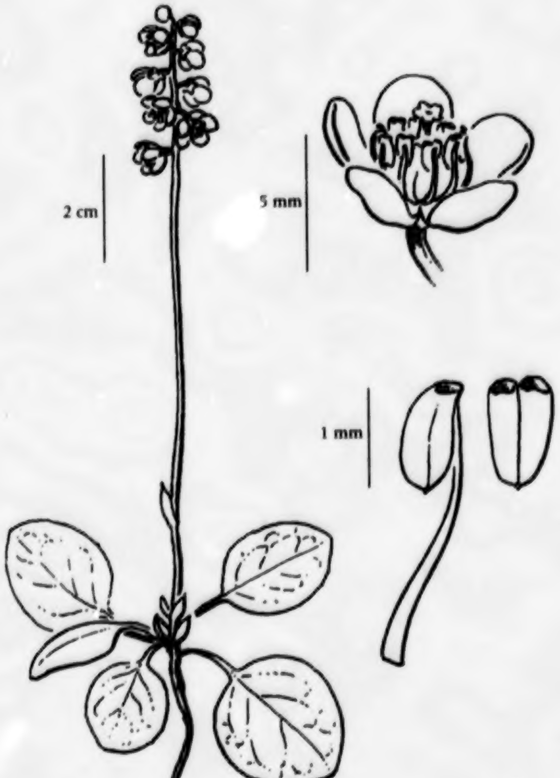
Leaves: Evergreen, basal, egg-shaped to elliptic or nearly circular, the blades 1-3 cm long, 1.4-2.5 cm wide, rounded to almost heart-shaped at base, blunt at tip, entire to finely round-toothed; stalks 1-3 cm long.

Flowers: Inflorescence a 5- to 20-flowered, somewhat crowded terminal raceme, the flowers 5-7 mm wide, more or less closed, radially symmetric; flower stalks 2-5 mm long; petals pale pinkish to rose, oval, 3.5-5 mm long; sepals pinkish, triangular-egg-shaped, 1-3 mm long; stamens converging, but not joined; anthers about 1 mm long, egg-shaped, pointed, the pores not on tubes; filaments thin, flattened; styles straight, included, 1-2 mm long, without a collar; stigmas 5-lobed.

Fruits: Capsules, depressed globe-shaped, 5-6 mm wide.



Pyrola grandiflora



Pyrola minor

Pyrola picta **Sm.** (*P. aphylla* Sm., *P. picta* ssp. *dentata* [Sm.] Piper, *P. dentata* Sm.)
white-veined wintergreen; Nootka wintergreen

HABITAT/RANGE:

Dry to mesic forests in the lowland and montane zones; frequent in SW BC, infrequent in SE BC; E to SW AB, and S to ID, MT, CO, and CA.

DESCRIPTION:

General: Perennial herb from slender rhizomes; sterile shoots with several, or a rosette of, leaves; flowering stems 1 to several, 10-30 cm tall, with several lance-shaped bracts.

Leaves: Sometimes leafless; usually with at least a few basal leaves, evergreen, leathery, elliptic to egg-shaped (or oblanceolate), the blades 2-7 cm long, pointed or rounded at the tip, blunt to pointed at the base, entire to minutely-toothed, upper surfaces often dark green and greyish-mottled along the main veins, sometimes pale green and not mottled, lower surfaces often purple, sometimes bluish-waxy when young; stalks to 7 cm long.

Flowers: Inflorescence a 5- to 25-flowered terminal raceme, the flowers about 1 cm wide, weakly bilaterally symmetric; flower stalks spreading, 4-10 mm long, from linear to lanceolate bracts less than length of stalks; corollas open, the petals yellowish or greenish-white to purplish, oval to egg-shaped, 6-8 mm long; sepals green to reddish, triangular to egg-shaped, about 2 mm long, tips pointed; anthers 2-5.5 mm long, sharp-pointed on the lower tips, pores on the sides of short tubes; styles declined, curved, about 10 mm long.

Fruits: Capsules, globe-shaped, up to 5 mm wide.

RANUNCULACEAE[25, 26]

1. Flowers irregular, bilaterally symmetric.
    2. Upper sepal hooded but not spurred; petals usually 2, concealed inside hood .... *Aconitum*
    2. Upper sepal spurred but not hooded; petals 2 or 4, not concealed by the sepals.
        3. Annuals; petals 2, united; follicle 1; rare introduced plant .... *Consolida*
        3. Perennials, usually from fleshy roots, tubers or corms; petals 4, distinct; follicles 3; native plants .... *Delphinium*
1. Flowers regular, radially symmetric.
    4. Petals prominently spurred, showy; fruit of several follicles; plants perennials .... *Aquilegia*
    4. Petals not prominently spurred and showy, if spurred (*Myosurus*) then inconspicuous, the fruit other than follicular, and the plants annuals.
        5. Plants annuals; flowers inconspicuous; sepals spurred .... *Myosurus*
        5. Plants usually perennials; flowers generally showy; sepals not spurred.
            6. Pistils 1; fruits a red or white berry .... *Actaea*
            6. Pistils usually 2 or more; fruits an achene or a follicle.
                7. Fruits 1-seeded achenes.
                    8. Perianth consisting of both calyx and the corolla, the corolla more showy than the calyx .... *Ranunculus*
                    8. Perianth consisting of only the calyx, or if the corolla present, then much less showy than the calyx.
                        9. Sepals small and inconspicuous, usually greenish or white, less showy than the stamens; stem leaves (if any) alternate.

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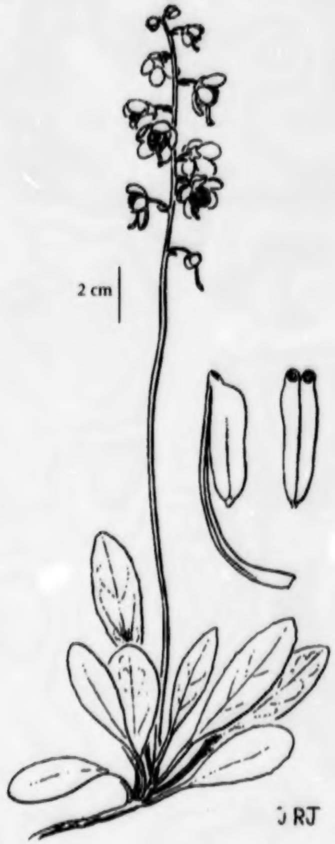
[25] Contributed by G.W. Douglas and D. Meidinger.

[26] Key adapted from Hitchcock and Cronquist (1973).



Pyrola picta

10. Leaves simple, palmately lobed; flowers perfect .... *Trautvetteria*

10. Leaves bi- or triternately compound; flowers often imperfect .... *Thalictrum*

9. Sepals usually conspicuous and more showy than the stamens; stem leaves opposite or whorled.

11. Stem leaves opposite; plants viny; achenes with a long feathery beak; sepals usually 4 .... *Clematis*

11. Stem leaves usually in a whorl of 3; plants never viny; beaks short and smooth to long and feathery; sepals mostly 5 or more .... *Anemone*

7. Fruits 2- to many-seeded follicles.

12. Leaves simple to palmately compound, never ternately dissected.

13. Leaves simple, the margins merely toothed .... *Caltha*

13. Leaves deeply 5-lobed to nearly compound .... *Trollius*

12. Leaves 1 to 3 times ternately divided to compound.

14. Leaves evergreen, leathery; petals gland-bearing; rhizomes threadlike, bright yellow .... *Coptis*

14. Leaves herbaceous; petals not gland-bearing; rhizomes threadlike not yellow.

15. Plants 1-2 m tall; restricted to SW BC west of the Coast-Cascade Mountains; follicles 1 to 3 .... *Cimicifuga*

15. Plants 10-40 cm tall; endemic to the Queen Charlotte and adjacent islands; follicles 4 .... *Enemion*

ACONITUM

1. Leaf-blades divided to the base .... *A. delphiniifolium*

1. Leaf-blades not divided to the base .... *A. columbianum*

Aconitum columbianum Nutt. ssp. *columbianum*

Columbian monkshood

HABITAT/RANGE:

Moist meadows, streambanks, thickets and forests in the montane and subalpine zones; common in SC and SE BC; S to NY, MI, WI, WY, NV, CA and MX.

DESCRIPTION:

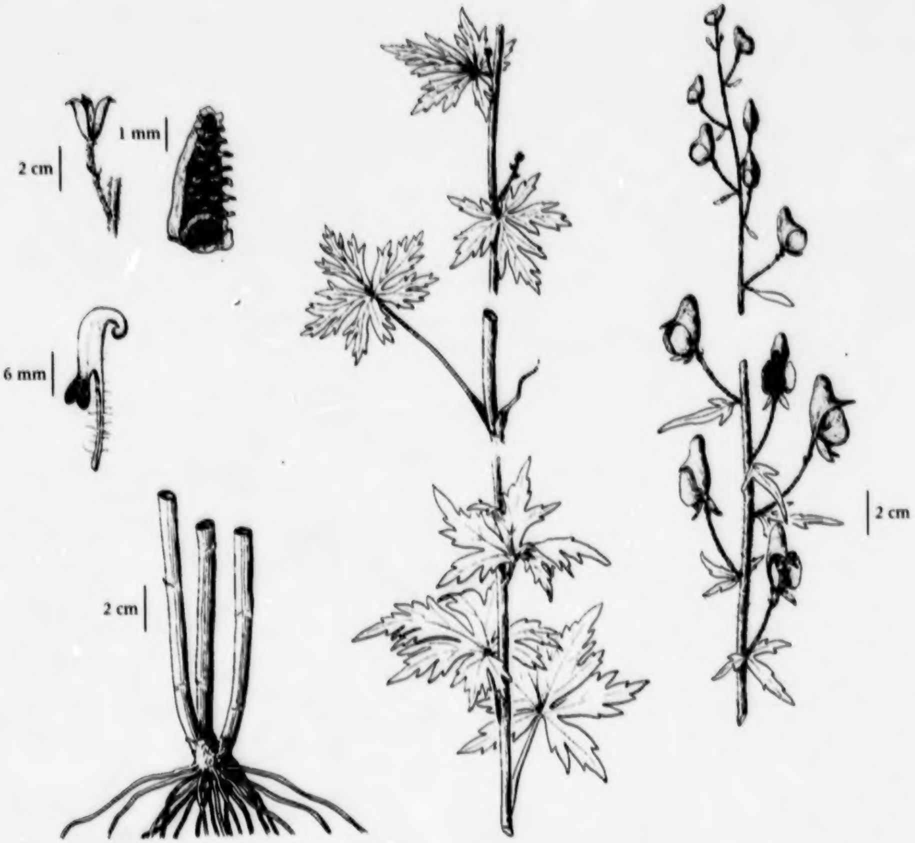
General: Perennial herb from a tuberous root; stems erect, stout, hollow, 20-200 cm tall, smooth to slightly crisp-hairy below, spreading-hairy above and glandular, particularly in inflorescence.

Leaves: Mostly stem leaves, alternate, long-stalked below, unstalked above, deeply palmately 3- to 5- (7-) lobed, 5-15 cm wide, the segment margins variously cleft and toothed.

Flowers: Inflorescence a terminal, open raceme, the flowers bilaterally symmetric, usually blue, sometimes white or cream-coloured or blue-tinged at sepal margins, 18-50 mm long from tips of lower sepals to top of hood; flower stalks slender, ascending; petals 2, distinct, concealed in hood, long-clawed, spurred at apex; sepals 5, petal-like, usually hairy and often somewhat glandular, the lower 2 lance-shaped, flat, 6-16 mm long, the lateral 2 round kidney-shaped, the upper sepal (the hood) sac-like, arched, conic-hemispheric to crescent-shaped, beaked, 11-34 mm long from receptacle to top of hood, 6-26 mm wide from receptacle to beak tip; pistils 3 (-5).

Fruits: Follicles, 3 (-5), 10-20 mm long, smooth to sparsely hairy, seeds about 3.5 mm long, longitudinally winged, with many transverse, membranous baffles.

Notes: Most species of *Aconitum* are highly toxic, causing death in livestock and humans. However, *A. columbianum* does not seem to be that toxic (Whittemore and Parfitt 1997).


1 mm
2 cm
6 mm
2 cm
2 cm

Aconitum columbianum* ssp. *columbianum

***Aconitum delphiniifolium* DC.**

mountain monkshood

HABITAT/RANGE:

Moist to mesic meadows, thickets, streambanks, tundra and open forests from the montane to the alpine zones; frequent in BC north of 53°N; amphiberingian, N to AK, YT and NT, E to AB; E Asia.

DESCRIPTION:

General: Perennial herb from a tuberous taproot; stems erect, slender, 10-120 cm tall, smooth to nearly so below, spreading recurved-hairy above (in inflorescence).

Leaves: Mostly stem leaves, alternate, stalked, 3-15 cm wide, palmately divided to base (or sometimes nearly so) into 5 segments, the margins cleft into narrow, linear-oblong lobes.

Flowers: Inflorescence a terminal, 3- to 15-flowered, open raceme, the flowers bilaterally symmetric, usually blue or purple, sometimes greenish-purple, yellowish, or white, 20-40 mm long from tips of lower sepals to top of hood; flower stalks slender, ascending; petals 2, distinct, concealed in hood, long-clawed, spurred at apex; sepals 5, the lower 2 flat, 9-20 mm long, the lateral 2 round kidney-shaped, the upper sepal (the hood) somewhat sac-like, crescent-shaped to hemispheric, beaked, 10-24 mm long from receptacle to top of hood, 13-30 mm wide from receptacle to beak tip; pistils 3 (-5).

Fruits: Follicles, 3 (-5), 15-25 mm long, smooth to sparsely hairy; seeds about 3 mm long, longitudinally winged, with many transverse, membranous baffles.

Notes: Highly toxic, especially roots and seeds, causing death in livestock and humans.

ACTAEA

***Actaea rubra* (Ait.) Willd.** (*A. arguta* Nutt., *A. rubra* ssp. *arguta* [Nutt.] Hult.)

baneberry

HABITAT/RANGE:

Moist to mesic streambanks, woodlands and forests in the lowland and montane zones; frequent throughout BC; N to AK, YT and NT, E to NF and S to NJ, OH, SD, NM, AZ and CA.

DESCRIPTION:

General: Perennial herb from stout, branched, woody stem-base and fibrous roots; stems 1 to several, erect, 40-100 cm tall, usually branched, sparsely-hairy.

Leaves: All stem leaves (one very low, and 1 or 2 mid- or upper-stem leaves), alternate, long-stalked, 2 to 3 times divided in threes or pinnately compound, the segments egg-shaped, (2) 3-9 cm long, the margins sharply cleft, irregularly toothed.

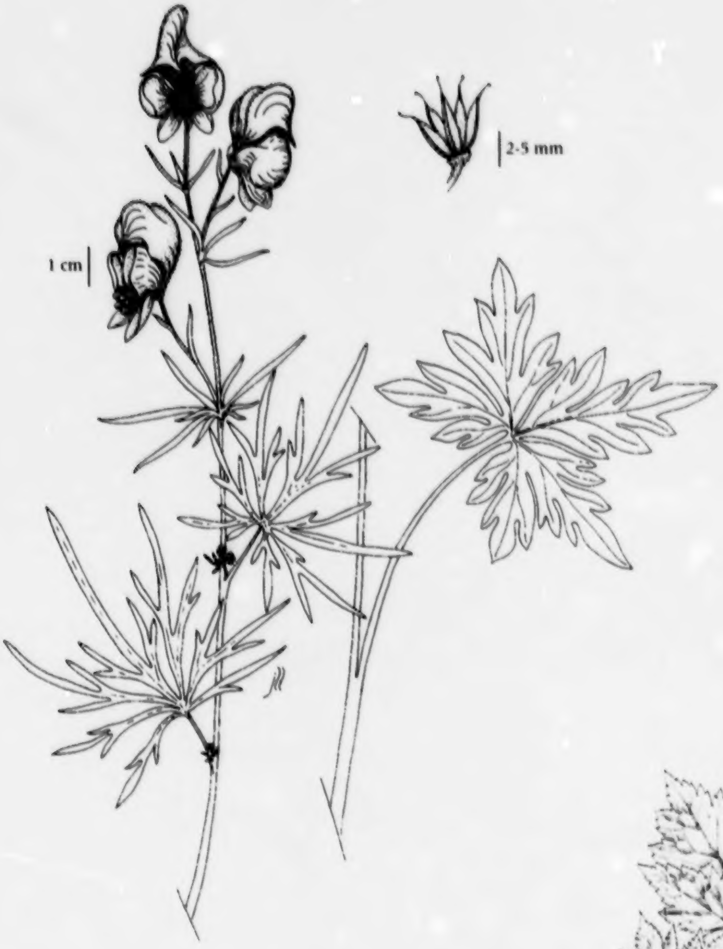
Flowers: Inflorescence of terminal and axillary, many-flowered racemes, the flowers radially symmetric; flower stalks 5-8 mm long; petals 5-10, white to cream-coloured, 2-3.5 mm long, egg- to spoon-shaped, clawed; sepals 3 to 5, early deciduous, petal-like, round, whitish- or purplish-green, 2-4 mm long; pistil 1; stamens many, longer than the petals.

Fruits: Berries, red or sometimes white, widely ellipsoid, 5-11 mm long; stalks 6-15 mm long; seeds brown, cone- to wedge-shaped, 3-3.5 mm long, surface wrinkled.

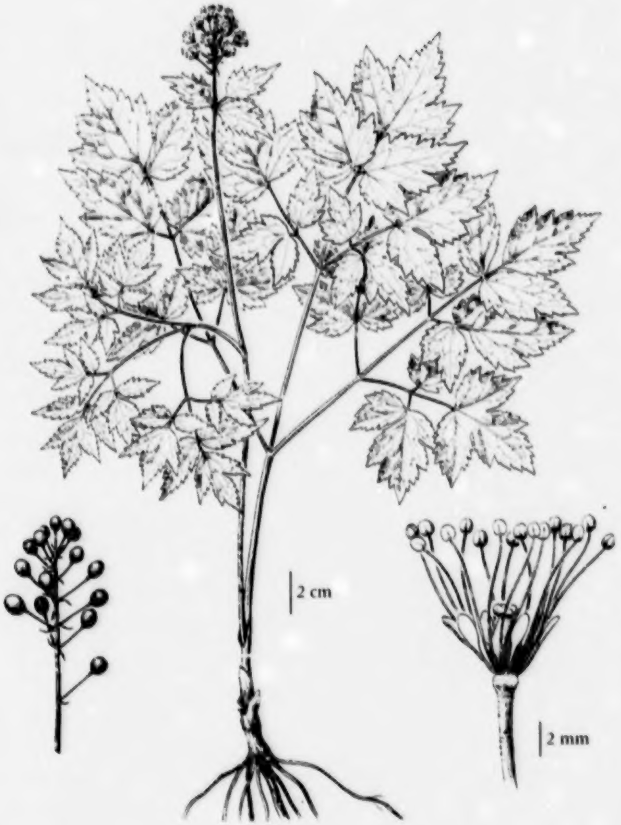
Notes: Fruit toxic to humans. The plant is usually red-fruited, however, the white-fruited *forma neglecta* (Gillman) Robins. can be more common in some localities.

ANEMONE

1. Achene beaks feathery, 1.5-3.5 cm long.
    2. Petals lacking; sepals white or purplish tinged; ultimate leaf segments relatively short .... *A. occidentalis*
    2. Petals present; sepals usually blue to purplish; ultimate leaf segments relatively long .... *A. patens*
1. Achene beaks usually not feathery, less than 1.5 cm long.
    3. Flowers yellow, solitary .... *A. richardsonii*



Aconitum delphiniifolium



Actaea rubra

3. Flowers creamy to white, solitary to several.
    4. Achenes smooth to short-stiff-hairy or finely hairy (not woolly).
        5. Achenes broadly winged; beaks 2-5 mm long .... *A. canadensis*
        5. Achenes wingless; beaks 0.5-1 mm long.
            6. Achenes smooth, 6-9 mm long; beaks 0.8-1 mm long; plants of N BC .... *A. narcissiflora*
            6. Achenes short stiff-hairy or finely hairy, 3-4 mm long; beaks 0.5 mm long; plants of S BC.
                7. Sepals 8-20 mm long; stamens 35-55; plants of SE BC .... *A. piperi*
                7. Sepals 6-10 mm long; stamens 12-20 (rarely 35); plants of SW BC .... *A. lyallii*
    4. Achenes densely woolly or long-hairy.
        8. Involucral leaves long-stalked
            9. Flower stalks with secondary involucres; leaf-lobes serrate on one side for half their length or more .... *A. virginiana*
            9. Flower stalks appear leafless; leaf-lobes merely coarsely toothed at the apex .... *A. cylindrica*
        8. Involucral leaves unstalked or short-stalked.
            10. Leaves simple, trifoliate, mostly 1-3 cm wide, the segments wedge-shaped ...... *A. parviflora*
            10. Leaves either compound in 3's or much divided into narrow segments.
                11. Plants generally 10-20 cm tall, 1-flowered; sepals often bluish; beaks straight, slender, 2-4 mm long .... *A. drummondii*
                11. Plants generally 20-60 cm tall, 1- to several-flowered; sepals often reddish; beaks thickened at base, 1-6 mm long .... *A. multifida*

***Anemone canadensis* L.**

Canada anemone

Habitat/Range:

Moist meadows, thickets and forest openings in the montane zone; rare in BC S of 56°N and E of Coast-Cascade Mountains; N to NT, E to NF and S to MO, OH, NJ, SD and NM.

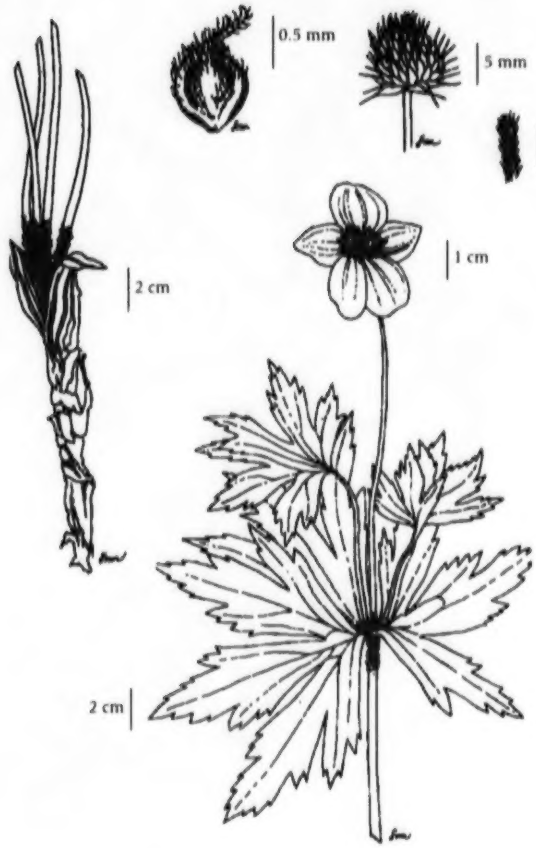
Description:

General: Perennial herb from woody stem-bases joined by rhizomes; stems erect, 15-80 cm tall, hairy.

Leaves: Basal, 1 to 5, simple, ascending, strongly veined, circular in outline, 4-10 cm long, 5-15 cm wide, deeply palmately 3- to 5-divided, the divisions mostly 3-cleft, the ultimate segments 10-30 (35) mm wide, toothed and incised on the upper 1/3 to 1/2, tips pointed, lightly fine-hairy; stalks 8-22 (37) cm long.

Flowers: Inflorescence a solitary terminal flower or a few-flowered cyme; primary involucral bracts 3, subtending a long-stalked flower, leaf-like, similar to basal leaves but unstalked and broadly triangular in outline; secondary involucres, sometimes present in vigorous plants, of 2 smaller leaf-like bracts; petals absent; sepals usually 5, petal-like, white, egg-shaped, 10-20 mm long, 5-15 mm wide, smooth or hairy near the base; stamens 80-100.

Fruits: Achenes, many in a spherical to egg-shaped head on stalk 7.5-11.5 cm long, the achenes egg-shaped to ellipsoid, 3-6 mm long, 3.5-6 mm wide, winged, short appressed-hairy to almost smooth, abruptly beaked, beaks 2-6 mm long, not feathery.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Anemone canadensis

***Anemone cylindrica* A. Gray**

long-headed anemone

HABITAT/RANGE:

Dry grasslands, shrublands and forests in the steppe and montane zones; infrequent in BC east of the Coast-Cascade Mountains and N to 56°N; N to NT, E to NB and S to NJ, SD, MO and NM.

DESCRIPTION:

General: Perennial herb from a woody stem-base, rarely with very short rhizomes; stems erect, (20) 30-70 cm tall.

Leaves: Basal, usually 5 to 10, ascending, mostly 5-10 cm long, palmately 3- (5-) parted, the divisions narrowly triangular, 3-cleft over half their length, the segments more or less 3-toothed, short appressed-hairy; stalks 9-21 cm long.

Flowers: Inflorescence a (1-) 2- to 8-flowered, terminal cyme; flower stalks long soft-hairy; involucral bracts 3 to 7 (-9), leaf-like, stalked, similar to basal leaves; petals absent; sepals usually 5, petal-like, green to whitish, oblong to elliptic or egg-shaped, 5-15 mm long, 3-6 mm wide, silky-hairy on outside, smooth inside; stamens 50-75.

Fruits: Achenes, numerous in a cylindric head on stalks 10-30 cm long, the achenes egg-shaped, 2-3 mm long, 1.5-2 mm wide, not winged, woolly-hairy; beaks bent back at tip, 0.5-1 mm long, hidden by hairs, smooth.

***Anemone drummondii* S. Wats.** (*A. lithophila* Rydb. = var. *lithophila*)

alpine anemone; Drummond's anemone

HABITAT/RANGE:

Mesic to dry meadows, rock outcrops and scree slopes in the subalpine and alpine zones; rare in SW BC (var. *drummondii*), common in SE BC, infrequent elsewhere E of the Coast-Cascade Mountains (var. *lithophila*); N to AK, YT and NT, E to AB and S to WY (var. *lithophila*), S to CA, disjunct in C ID (var. *drummondii*).

DESCRIPTION:

General: Perennial herb from a branching woody stem-base; stems erect, 10-30 cm tall, stiff-hairy.

Leaves: Basal, 5 to 15, ascending, 3- or 4-times 3-parted, sometimes irregularly so, the ultimate segments linear, 1-2.5 mm wide, long-hairy; stalks 2-10 cm long.

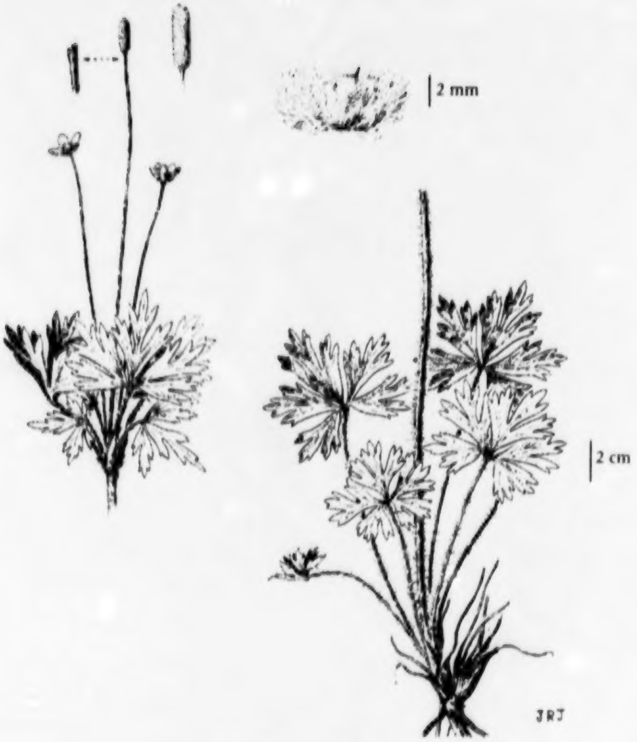
Flowers: Inflorescence 1- (2-) flowered, terminal; flower stalks long soft-hairy; involucral bracts 3 (-4), 1-tiered, leaf-like, similar to basal leaves but short-stalked; petals absent; sepals usually 6 to 9, petal-like, all white or white tinged with blue on outside, narrowly egg-shaped, 8-20 mm long, 6-10 mm wide, hairy on outside, smooth inside; stamens 80-100, whitish.

Fruits: Achenes, numerous in a spheric head, rarely cylindric, on stalks 3-10 cm long, the achenes egg-shaped, 2-4 mm long, 1-1.5 mm wide, not winged, silky-hairy; beaks straight, 2-4 (6) mm long, smooth.

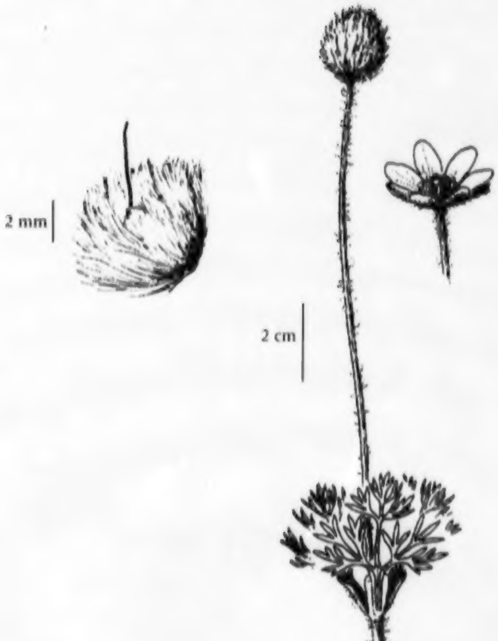
Notes: Two varieties occur in BC:

1. Ultimate leaf segments mostly 1.5-2.5 mm wide; beaks 2-2.5 mm long .... var. *lithophila* (Rydb.) C.L. Hitchc.

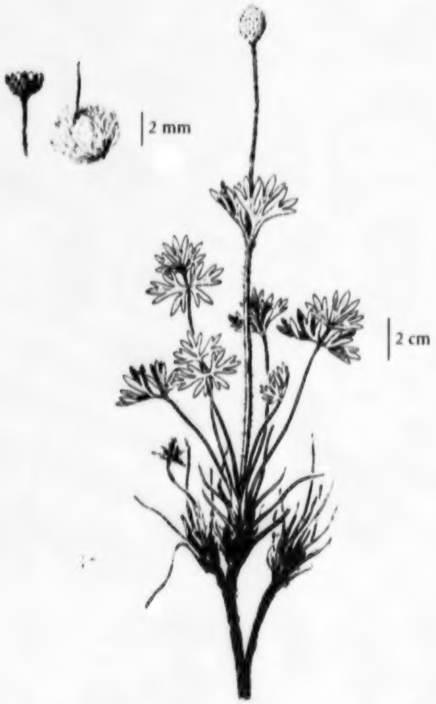
1. Ultimate leaf segments mostly 1-1.5(2) mm wide; beaks mostly 2-4 (6) mm long .... var. *drummondii*



Anemone cylindrica



Anemone drummondii var. *drummondii*



Anemone drummondii var. *lithophila*

Anemone lyallii **Britt.** (*A. quinquefolia* L. var. *lyallii* [Britt.] B.L. Robins.)

Lyall's anemone

HABITAT/RANGE:

Moist meadows, thickets and forests in the lowland, montane and subalpine zones; infrequent in SW BC, disjunct in WC BC; S to N CA.

DESCRIPTION:

General: Perennial herb from a horizontal, pale, scaly rhizome; stems slender, erect, 5-30 cm tall, minutely hairy to smooth.

Leaves: Basal leaves 1 or absent, ascending, thin, palmately compound with 3 leaflets, the leaflets 1-3 (5) cm long, toothed on the upper 1/2 to 2/3, tips pointed, lateral leaflets often lobed, usually smooth; stalks 5-8 cm long.

Flowers: Inflorescence a solitary, terminal flower; flower stalks smooth or minutely-hairy above; involucral bracts 3, leaf-like, stalked, similar to basal leaves; petals absent; sepals 5 (6-7), petal-like, white, pink, or sometimes blue-tinged, oblong, 3.5-8 (10) mm long, 1.5-3 mm wide, smooth; stamens 10-30 (35).

Fruits: Achenes, several to many in a spheric head on stalks 1-3 cm long, the achenes elliptic, 3-4 mm long, 1-1.5 mm wide, not winged, white fine-hairy; beaks awl-shaped, about 0.5 mm long, smooth.

Anemone multifida **Poir.** (*A. multifida* var. *hirsuta* C.L. Hitchc. = var. *saxicola*, *A. multifida* var. *richardsiana* Fern. = var. *multifida*)

cut-leaved anemone; Pacific anemone

HABITAT/RANGE:

Mesic to dry grasslands, shrublands, open forests, rock outcrops and meadows in the lowland to subalpine zones; common throughout BC; N to AK, YT and NT, E to NF and S to NY, ME, NE, NM, NV and N CA, disjunct in S America.

DESCRIPTION:

General: Perennial herb from a woody stem-base; stems 1 to many, erect, 10-60 cm tall, sparsely to abundantly hairy

Leaves: Basal, 3 to 6, ascending, 3-10 cm wide, palmately 1- or 2-times 3-parted, margins incised on upper 1/3, the ultimate segments 2-3.5 mm wide, smooth to long-hairy on upper surfaces, long-hairy on lower; stalks 4-10 cm long.

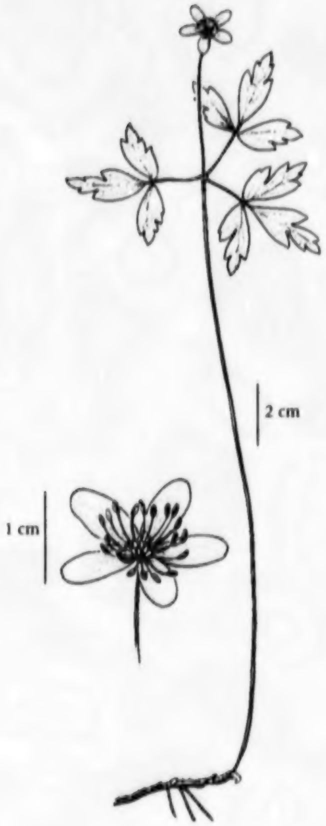
Flowers: Inflorescence a 2- to 7-flowered, terminal cyme, or a solitary flower; flower stalks long soft-hairy; involucral bracts usually 3 to 5, occasionally 2 in secondary bracts, leaf-like, short-stalked, similar to basal leaves but reduced, ultimate segments 1.5-3 mm wide, sometimes incompletely 3-parted; petals absent; sepals usually 5 to 9, petal-like, from cream-coloured to yellowish and tinged with blue, purple, or red, especially on outer surface, sometimes wholly pink, egg-shaped to oblong, 5-17 mm long, 5-7 mm wide, hairy on outside, smooth inside; stamens 50-80, whitish; styles white.

Fruits: Achenes, numerous in a spheric head on stalks 6-15 cm long, the achenes irregularly elliptic, flat, 3-4 mm long, 1.5-2 mm wide, not winged, woolly or long-hairy; beaks more or less straight, curved or hooked at tip, 1-6 mm long, smooth.

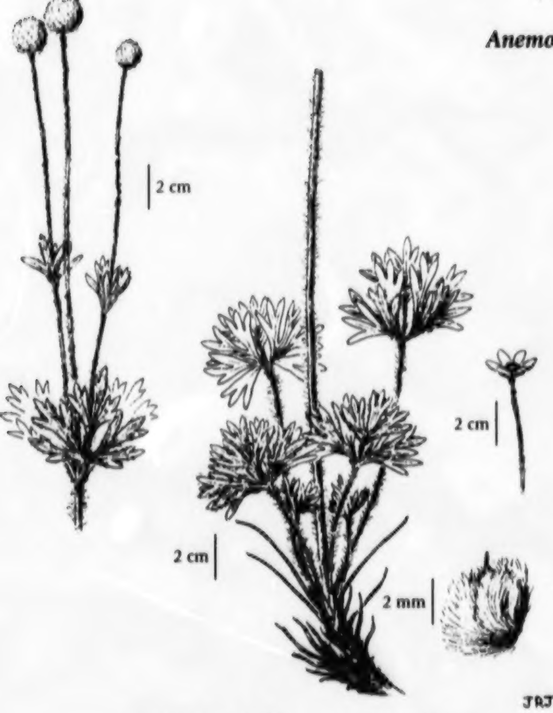
Notes: Two varieties occur in our region:

1. Plants (10) 20-40 cm tall; inflorescence (1-) 2- to 3-flowered .... var. *saxicola* Boivin

1. Plants (30) 40-60 cm tall; inflorescence (2-) 5- to 7-flowered .... var. *multifida*



Anemone lyallii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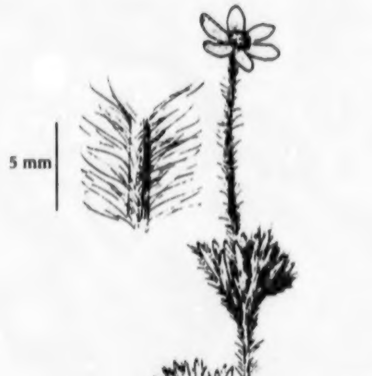
Anemone multifida var. multifida



Anemone multifida var. saxicola

***Anemone narcissiflora* L. var. *monantha* DC.** (*A. narcissiflora* ssp. *sibirica* [L.] Hult.)

narcissus anemone

HABITAT/RANGE:

Moist to mesic meadows, heath, rocky slopes, shrublands and forest openings in the subalpine and alpine zones; common in N BC and along the coast from Brooks Peninsula northward; circumboreal, N to AK, YT and NT.

DESCRIPTION:

General: Perennial herb from a woody stem-base; stems erect, 7-60 cm tall; commonly hairy.

Leaves: Basal, 3 to 10, ascending, 2-10 cm wide, palmately 3-parted, the margins incised on the upper 1/3, sometimes with a few teeth, the lateral leaflets deeply 1- to 3-lobed, incised, the ultimate segments 3-10 mm wide, nearly smooth to silky-hairy; stalks 4-20 cm long.

Flowers: Inflorescence a 2- to 8-flowered terminal umbel, or a solitary flower; flower stalks nearly smooth to long soft-hairy; involucral bracts (2-) 3, leaf-like, similar to basal leaves but greatly reduced, bases clasping and more or less joined; petals absent; sepals usually 5 to 9, petal-like, white to cream, often blue-tinged on outer surface, egg- to diamond-shaped, 8-20 mm long, 5-13 mm wide, smooth; stamens 40-80 (100).

Fruits: Achenes, numerous in a spheric head on stalks 5-14 cm long, the achenes ellipsoid to egg-shaped, 5-9 mm long, 4-6 mm wide, winged, smooth; beaks curved to curved back, 0.8-1.5 mm long, smooth.

***Anemone occidentalis* S. Wats.** (*Pulsatilla occidentalis* [S. Wats.] Freyn)

western pasqueflower

HABITAT/RANGE:

Mesic meadows and forest openings from the montane to alpine zones; common in S BC; E to AB and S to ID, MT and N CA.

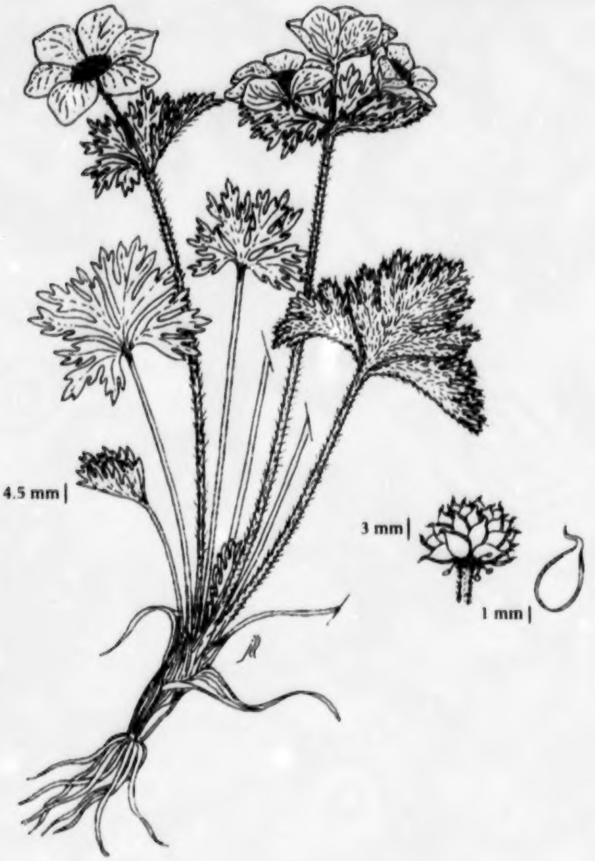
DESCRIPTION:

General: Perennial herb from a taprooted, woody stem-base; stems erect, 10-60 cm tall; soft-hairy.

Leaves: Basal, (2) 3 to 6 (8), ascending, 4-8 cm long, 3-parted with each leaflet 2- to 3-times pinnatifid, the margins pinnatifid to dissected throughout, the ultimate segments linear, 1-2 mm wide, soft-hairy; stalks 6-8 cm long.

Flowers: Inflorescence a solitary, terminal flower; flower stalks woolly or densely soft-hairy, becoming smooth in age; involucral bracts 3, sometimes more, leaf-like, similar to basal leaves, short-stalked; petals absent; sepals 5 to 7, petal-like, white, tinged purple near the bases on outside, egg-shaped, 15-30 mm long, 10-17 mm wide, hairy outside, smooth inside; stamens 150-200.

Fruits: Achenes, numerous in a spheric head, rarely cylindric, on stalks 15-20 cm long, the achenes ellipsoid, 3-4 mm long, about 1.5 mm wide, not winged, soft-hairy; beaks (styles) curved to curved back with age, 2-5 cm long, silky-feathery.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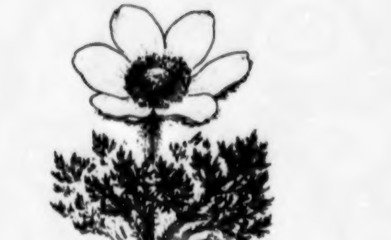
Anemone narcissiflora var. *monantha*



Anemone occidentalis

Anemone parviflora **Michx.**

northern anemone

HABITAT/RANGE:

Moist meadows, heath, seepage sites, snowbeds, scree, tundra, thickets, streambanks and forest openings from the montane to the alpine zones; frequent throughout BC; N to AK, YT and NT, E to NF and S to ID, CO and NE OR.

DESCRIPTION:

General: Perennial herb from a short woody stem-base on widespread, slender, horizontal rhizomes; stems erect, 5-30 cm tall; nearly smooth to densely soft-hairy.

Leaves: Basal, 1 to 5 (7), ascending, heart- to kidney-shaped, 1.5-3 (4) cm wide, 3-parted, margins usually broadly toothed to toothed on upper 1/3, the terminal leaflet obtriangular, 0.7-1.8 cm long, 0.5-1.3 cm wide, the lateral leaflets once- or twice-lobed, the ultimate segments 4-15 mm wide, nearly smooth to soft-hairy; stalks 2-10 cm long.

Flowers: Inflorescence 1-flowered, terminal; flower stalks soft-hairy; involucral bracts 2 to 3, leaf-like, similar to terminal leaflets of basal leaves; petals absent; sepals 4 to 7, petal-like, white or tinged blue, broadly elliptic to egg-shaped, 8-20 mm long, 4-9 mm wide, hairy and often bluish outside, smooth inside; stamens 70-80.

Fruits: Achenes, numerous in a spheric head on stalks 4-18 cm long, the achenes egg-shaped, 2-2.5 mm long, about 1 mm wide, not winged, densely woolly; beaks straight, 1-2.5 mm long, smooth.

Anemone patens **L. ssp. *multifida* (Pritzel) Hult.** (*A. nuttalliana* DC., *Pulsatilla patens* [L.] P. Miller ssp. *multifida* [Pritzel] Zamels)

prairie crocus; pasqueflower

HABITAT/RANGE:

Dry meadows and forest openings from the steppe to the subalpine zones; common in extreme N and E BC; N to AK, YT and NT, E to W ON and S to MI, MO, TX, UT and ID.

DESCRIPTION:

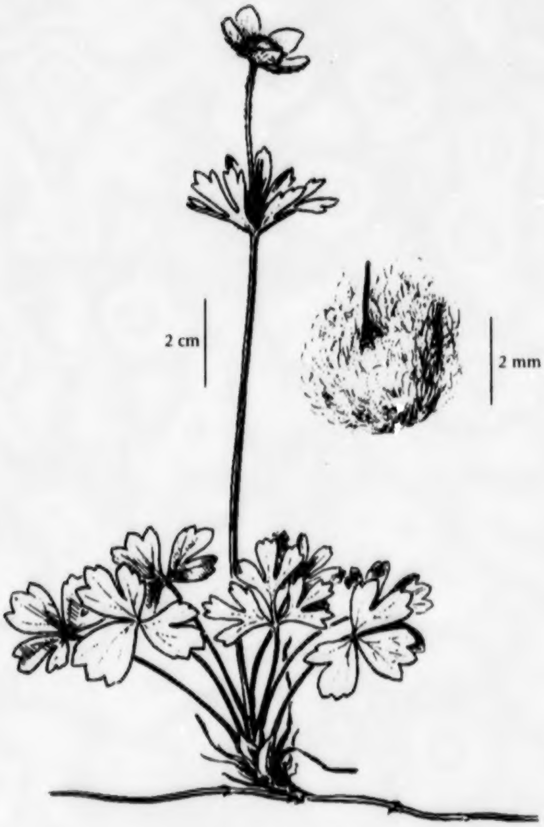
General: Perennial herb from a woody stem-base surmounting a taproot; stems 1 to many, erect, 5-25 (35) cm tall; more or less greyish long-hairy throughout.

Leaves: Basal, (3) 5 to 8 (10), ascending, 4-10 cm wide, mostly 3-parted with each leaflet dichotomously dissected, the ultimate segments linear, 1-3 mm wide, soft-hairy, rarely smooth; stalks 5-10 cm long.

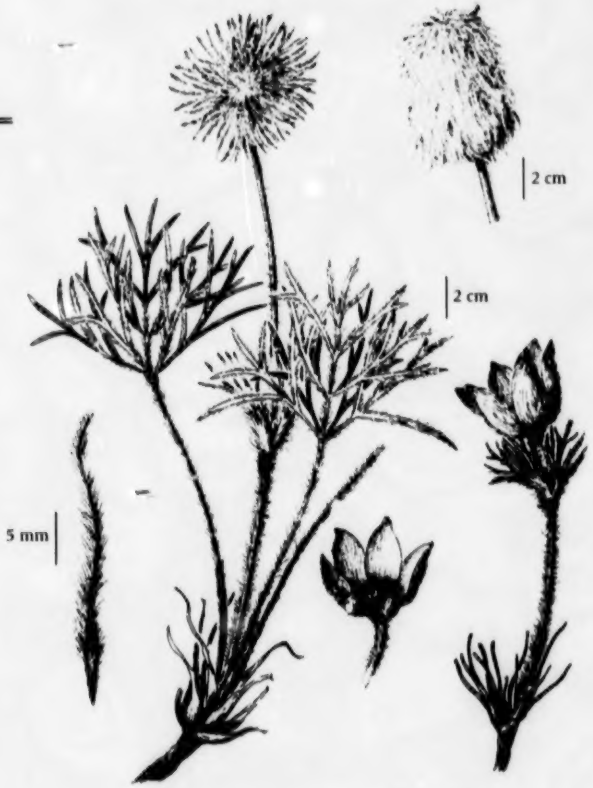
Flowers: Inflorescence a solitary, terminal flower; flower stalks soft-hairy, sometimes becoming smooth in age; involucral bracts mostly 3, leaf-like but differing from basal leaves, simple, unstalked, bases clasping and joined, margins deeply incised throughout, segments usually 4 to 6, long and slender or linear, not lobed, generally soft-hairy, rarely smooth; petals absent; sepals 5 to 8, petal-like, blue or purple, rarely nearly white, oblong to elliptic, 20-40 mm long, 10-15 mm wide, hairy outside, smooth inside; stamens 150-200.

Fruits: Achenes, numerous in a spheric to egg-shaped head on stalks 10-18 cm long, the achenes ellipsoid to egg-shaped, 3-4 mm long, about 1 mm wide, not winged, soft-hairy; beaks (styles) curved, 2-4 cm long, short-feathery-hairy.

Notes: The Eurasian material (ssp. *patens*) appears to be scarcely distinguishable from the North American plants.



Anemone parviflora



Anemone patens ssp. *multifida*

***Anemone piperi* Britt.**

Piper's anemone

HABITAT/RANGE:

Moist forests in the montane zone; rare in SE BC, known only from the Kaslo area; S to ID, MT, UT and OR.

DESCRIPTION:

General: Perennial herb from a vertical or ascending rhizome; stems erect, 1 or more, 10-35 cm tall.

Leaves: Basal, 1 or 2 or absent, ascending, 3-parted, the leaflets 2.5-6 cm long, coarsely toothed on the upper 1/2 to 2/3, tips pointed, lateral leaflets sometimes lobed, soft-hairy or smooth; stalks 10-20 cm long.

Flowers: Inflorescence a solitary, terminal flower; flower stalks soft-hairy above; involucral bracts 3, leaf-like, stalked, similar to basal leaves; petals absent; sepals 5 to 7, petal-like, white, rarely pinkish, elliptic egg-shaped to egg-shaped, 8-20 mm long, 6-8 mm wide, smooth; stamens 35-55 (90).

Fruits: Achenes, several in a nearly spheric head on stalks 2-5 cm long, the achenes ellipsoid to egg-shaped, 3-4 mm long, 1.5-2 mm wide, not winged, soft-hairy; beaks straight or slightly curved, 0.5-1 mm long, smooth or minutely-hairy near attachment.

***Anemone richardsonii* Hook.**

yellow anemone

HABITAT/RANGE:

Moist to wet streambanks, seepage sites, peaty tundra, meadows, thickets, swamps and open forests from the montane to alpine zones; common E of the Coast Mountains and N of 52°N; amphiberingian, N to AK, YT and NT, E to PQ and Greenland; NE Asia.

DESCRIPTION:

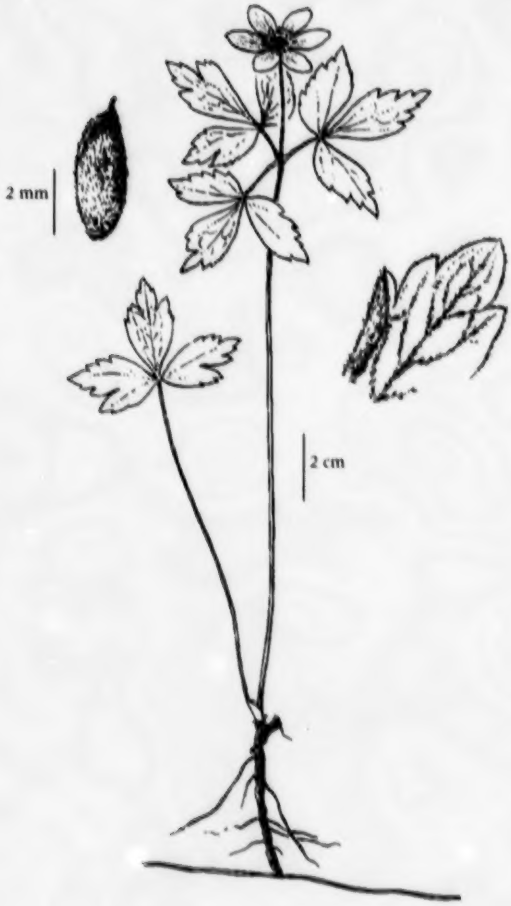
General: Perennial herb from a slender rhizome; stems erect, 5-30 cm tall, hairy above.

Leaves: Basal, 1, simple, ascending, strongly veined, kidney-shaped to circular in outline, 1.5-3 (4) cm long, 1.5-4 cm wide, palmately 3-lobed, smooth or lightly soft-hairy, toothed throughout, the ultimate segments 4-10 (15) mm wide, tips pointed; stalks 2-8 (12) cm long.

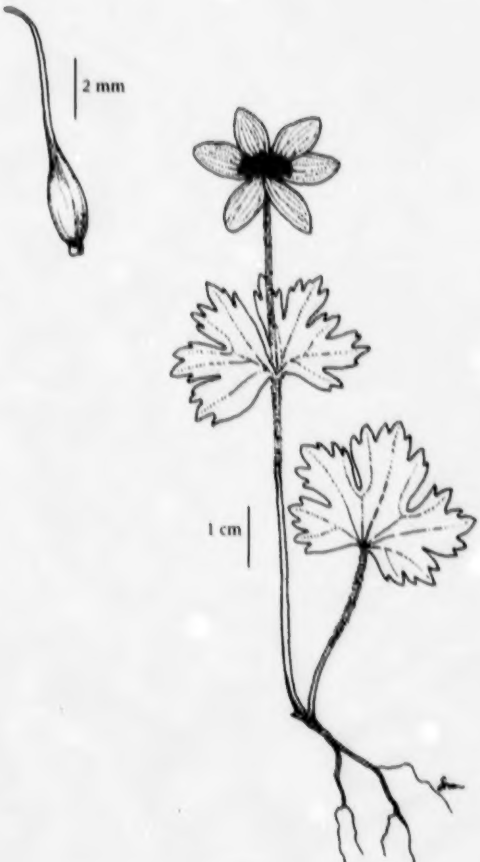
Flowers: Inflorescence a solitary terminal flower; involucral bracts 2 to 3, leaf-like, similar to basal leaves but unstalked, broadly diamond-shaped in outline, and 3-lobed; petals absent; sepals usually 6, petal-like, yellow, elliptic, 8-15 mm long, 4-10 mm wide, hairy outside, at least near base, smooth inside; stamens 25-55.

Fruits: Achenes, several to many in a loose, spheric head on hairy stalk 3-20 cm long, the achenes egg-shaped to oblong, 3-4 mm long, about 1.5 mm wide, not winged, smooth, abruptly beaked, beaks hooked, 4-6 mm long, smooth.

Notes: At first glance this yellow-flowered species could be mistaken for *Ranunculus lapponicus*.



Anemone piperi



Anemone richardsonii

***Anemone virginiana* L. var. *cylindroidea* Boivin** (*Anemone riparia auct. non* Fern.)
riverbank anemone

HABITAT/RANGE:

Moist to mesic gravel bars, streambanks and forests in the steppe and montane zones; rare, known from scattered locations from SW to NE BC; E to NF and S to ME, IL and MN.

DESCRIPTION:

General: Perennial herb from a woody stem-base, rarely with rhizomes; stems erect, 30-100 cm tall, smooth to sparsely hairy.

Leaves: Basal, 1 to 5, ascending, palmately 3-parted, 8-20 cm wide, the divisions oblanceolate to egg-shaped, 2-9 cm long, the margins coarsely toothed and incised in the upper 1/2, the lateral leaflets usually 1- or 2-lobed or parted, the ultimate segments 10-30 (40) mm wide, long soft-hairy; stalks 5-35 cm long.

Flowers: Inflorescence a (1-) 2- to 9-flowered, terminal cyme; flower stalks long soft-hairy, primary stalks 1 to 3, 1 or 2 often with a secondary involucre of 1 to 3 flowers; primary involucral bracts 3 (-5), secondary 2 (3), leaf-like, stalked, similar to basal leaves; petals absent; sepals usually 5, petal-like, white or greenish, rarely red, oblong to elliptic or egg-shaped, 5-10 mm long, 2-5 mm wide, woolly-hairy on outside, smooth or nearly so inside; stamens 50-70.

Fruits: Achenes, numerous in an egg-shaped to cylindric head on stalks 13-25 cm long, the achenes egg-shaped, 2-3.7 mm long, 1.5-2 mm wide, not winged, densely woolly-hairy; beaks curved, 1-1.5 mm long, minutely-hairy, not feathery.

AQUILEGIA

1. Sepals blue or bluish-purple; spurs shorter than the petal blades .... *A. brevistyla*
1. Sepals yellow or pale to deep red; spurs mostly longer than the petal blades.
   2. Sepals yellow; spurs more or less incurved, the petal blades usually over 6 mm long........ *A. flavescens*
   2. Sepals pale to deep red; spurs usually nearly straight, the petal blades usually less than 6 mm long .... *A. formosa*

***Aquilegia brevistyla* Hook.**
blue columbine

HABITAT/RANGE:

Mesic meadows, thickets, gravelly terraces and open forests in the montane zone; frequent in BC north of 51°N and E of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to MT and SD.

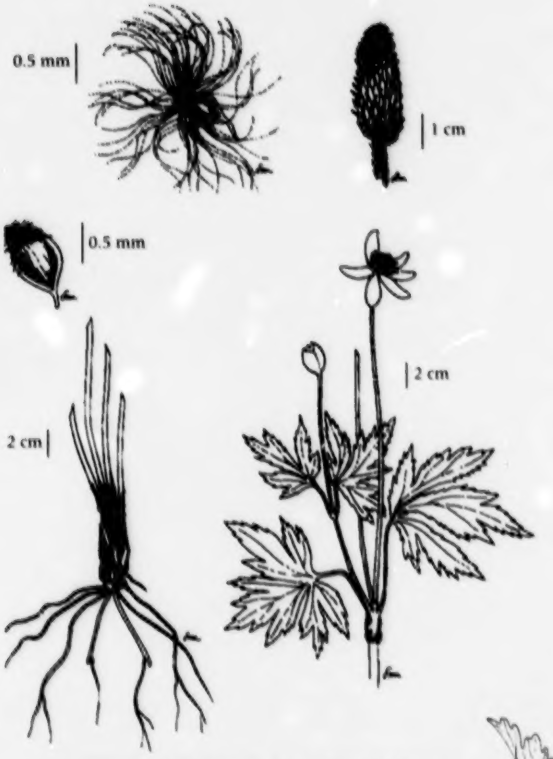
DESCRIPTION:

General: Perennial herb from a taproot; stems erect, slender, 20-80 cm tall, smooth below, thinly spreading-hairy above.

Leaves: Basal leaves 5-30 cm long (including long stalks), much shorter than stems, twice 3-parted, the first set of 3 stalks 10-55 mm long (the leaflets not crowded), long soft-hairy, at least near ends, each leaflet 12-44 mm long, lobed and round-toothed, green above, not glandular, with a bloom beneath; stem leaves few, shorter-stalked.

Flowers: Inflorescence of 1 to 4 nodding flowers in a terminal cyme, the flowers 2-3.5 cm wide; bracts like leaves but greatly reduced, unstalked; petals 5, distinct, white with pale blue spurs, the spurs hooked, 5-10 mm long, stout, evenly tapered from base, the blades oblong, 7-10 mm long, 3-6 mm wide; sepals 5, blue, diverging, lance-shaped to narrowly elliptic, 13-16 mm long, 3-6 mm wide, tips pointed; stamens 7-11 mm long.

Fruits: Follicles, erect, egg-shaped, 15-25 mm long, hairy; beaks 3-4 mm long; seeds black, egg-shaped, smooth.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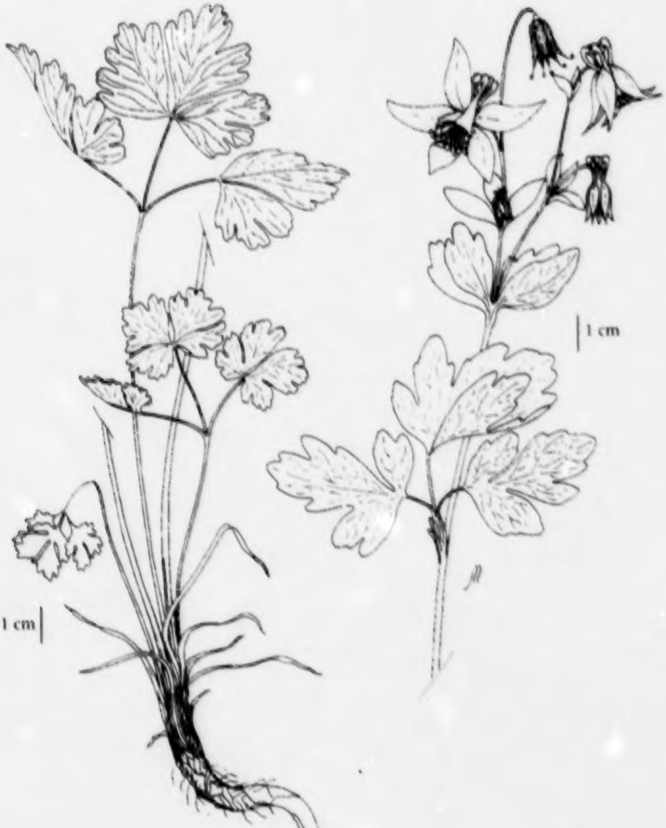
Anemone virginiana var. *cylindroidea*



Aquilegia brevistyla

***Aquilegia flavescens* S. Wats.**

yellow columbine

HABITAT/RANGE:

Moist meadows and rocky slopes in the subalpine and alpine zones; common in SE BC, rare northward; E to AB and S to CO, UT, ID and OR.

DESCRIPTION:

General: Perennial herb from a taprooted woody stem-base; stems erect, 20-70 cm tall.

Leaves: Basal leaves 8-30 cm long (including long stalks), much shorter than stems, twice 3-parted, the first set of 3 stalks 13-67 mm long (the leaflets not crowded), smooth or long soft-hairy, each leaflet 14-42 mm long, 2- to 3-times shallowly to deeply lobed, thin, usually hairy and with a bloom beneath, not glandular; stem leaves few, shorter-stalked.

Flowers: Inflorescence of several nodding flowers in a terminal cyme, the flowers 2.5-5 cm wide; bracts leaf-like but greatly reduced, unstalked; petals 5, distinct, cream-coloured with yellow spurs, the spurs knobbed, 10-18 mm long, stout, evenly tapered from base or abruptly narrowed near middle, tips curved inward, the blades oblong, 7-10 mm long, 4-8 mm wide; sepals 5, yellow or tinged with pink, widely spreading, elliptic lance-shaped to oblong, 12-22 mm long, 4-10 mm wide, tips blunt to pointed; stamens 12-17 mm long.

Fruits: Follicles, usually 5, erect, egg-shaped, 18-27 mm long, hairy or glandular-hairy; beaks 8-10 mm long; seeds black, egg-shaped, wrinkled and pebbled.

Notes: This species hybridizes frequently with *A. formosa*. The hybrids have been called *A. flavescens* var. *miniana* Macbr. & Pays.

Aquilegia formosa* Fisch. *ex* DC. ssp. *formosa

Sitka columbine; red columbine

HABITAT/RANGE:

Mesic to moist meadows, rocky slopes, thickets, clearings, roadsides and open forests in all zones except the alpine; common throughout BC; N to SW AK and S YT, E to SW AB and S to UT and CA.

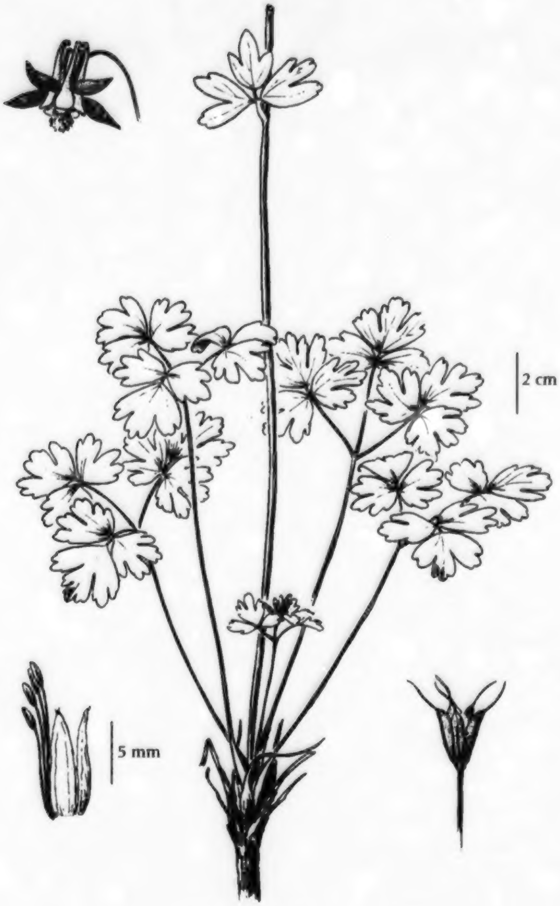
DESCRIPTION:

General: Perennial herb from a taprooted, usually branched, woody stem-base; stems erect, 15-100 cm tall, smooth below, sparsely hairy and smooth above especially in inflorescence.

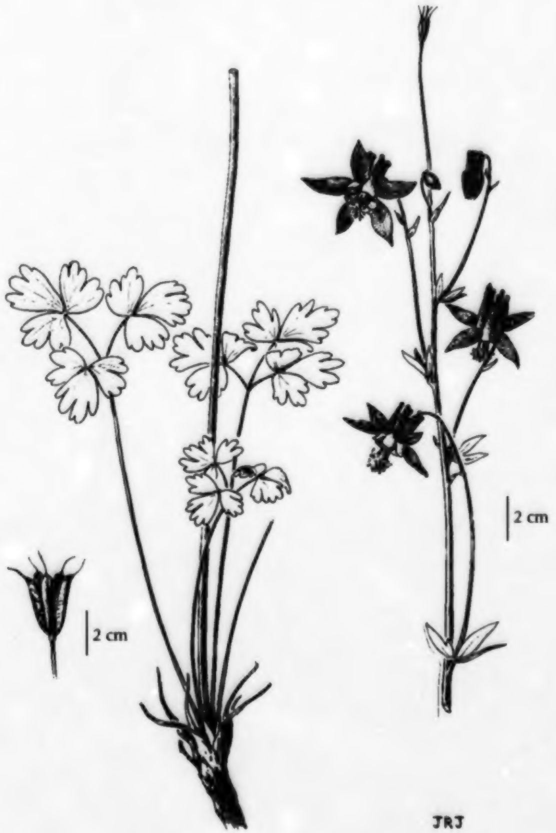
Leaves: Basal leaves 10-40 cm long (including long stalks), much shorter than stems, twice 3-parted, the first set of 3 stalks 16-95 mm long (the leaflets not crowded), smooth or long soft-hairy, each leaflet 14-68 mm long, 2- to 3-times shallowly to deeply lobed, thin, usually hairy and with a bloom beneath, not glandular; stem leaves few, shorter-stalked.

Flowers: Inflorescence of several nodding to hanging flowers in a terminal cyme, the flowers 3-5 cm wide; bracts leaf-like but greatly reduced, unstalked; petals 5, distinct, the spurs red, knobbed, 13-21 mm long, stout, abruptly narrowed near middle, with straight tips, not curved in, the blades yellow, oblong, sometimes absent, to 6 mm long, 4-6 mm wide; sepals 5, pale to deep red, widely spreading, elliptic to lance-shaped, 10-26 mm long, 4-9 mm wide, tips pointed to sharp-pointed; stamens 12-17 mm long.

Fruits: Follicles, 5, erect, egg-shaped, 15-25 (29) mm long, hairy; beaks 9-12 mm long; seeds black, egg-shaped, wrinkled and pebbled.



Aquilegia flavescens



Aquilegia formosa ssp. *formosa*

CALTHA

1. Sepals yellow .... *C. palustris*
1. Sepals white.
   2. Flowering stems leafy, usually more than 2 leaves, floating or creeping; sepals 4-5 mm long .... *C. natans*
   2. Flowering stems leafless or rarely up to 2 leaves, erect; sepals 7-20 mm long .... *C. leptosepala*

***Caltha leptosepala* DC.** (*C. biflora* DC., *C. biflora* var. *rotundifolia* [Huth] C.L. Hitchc., *C. leptosepala* ssp. *howellii* [Huth] P.G. Smith var. *biflora*)

white marsh-marigold; mountain marsh-marigold; elkslip

HABITAT/RANGE:

Wet to moist meadows, bogs, fens, streambanks and seepage sites from the lowland to alpine zones; common in W BC, west of the Coast-Cascade Mountains (var. *biflora*), frequent throughout BC except Queen Charlotte Islands and adjacent coast (var. *leptosepala*); N to SW AK and S YK, E to AB and S to NM, AZ and CA.

DESCRIPTION:

General: Perennial herb from a short, thick stem-base with fibrous roots; stems erect, 5-40 cm tall; plants smooth, fleshy.

Leaves: Basal leaves waxy green, the blades oblong egg-shaped to circular or kidney-shaped, 2-12 cm long, margins wavy coarse-toothed, round-toothed, or nearly entire; long-stalked (2-25 cm).

Flowers: Inflorescence a 1- or 2- (4-) flowered, terminal cyme, the flowers 2-4 cm wide; flower stalks erect, usually leafless or with 1 leaf; petals absent; sepals 6 to 12, white or greenish, tinged bluish on outside, oblong, 8.5-23 mm long; stamens 50 or more.

Fruits: Follicles, 4 to 15, spreading, linear-oblong, 10-20 mm long, 3-4.5 mm wide; beaks straight or curved, 0.5-1.8 mm long; seeds brown, elliptic, 1.9-2.5 mm long, surface longitudinally wrinkled or grooved.

Notes: Two varieties occur in BC:

1. Leaves longer than wide, the margins more sharp-toothed than round-toothed; flowers usually 1 per stem; subalpine and alpine .... var. *leptosepala*
1. Leaves nearly as wide as long, the margins subentire to broadly round-toothed; flowers mostly 2 per stem; lowland to subalpine .... var. *biflora* (DC.) Lawson

***Caltha natans* Pallas**

floating marsh-marigold

HABITAT/RANGE:

Ponds, wet ditches and muddy lake shores in the montane zone; locally frequent in NE BC; amphiberingian, N to AK, YT and NT, E to MB and S to N MN; N Asia.

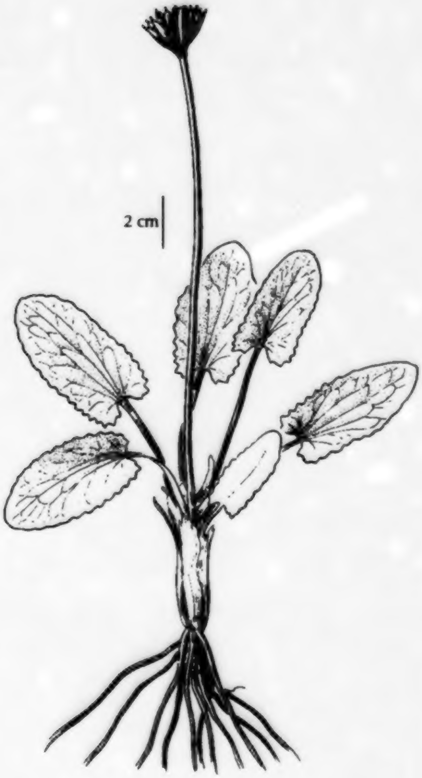
DESCRIPTION:

General: Perennial herb from a fibrous root; stems leafy, slender, floating or creeping, rooting at nodes, 30-100 cm long; plants smooth.

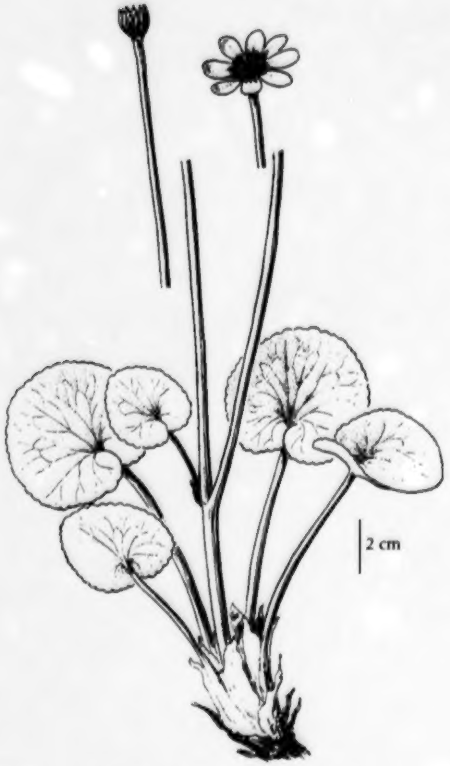
Leaves: Leaves often floating, the blades egg- to kidney- or heart-shaped, 1-2.5 cm long, 1-5 cm wide, margins nearly entire; stalks slender, weak, 2-20 cm long.

Flowers: Inflorescence of a solitary terminal flower, or a loose cluster of 2 to 6 flowers, the bract-leaves reduced, the flowers 8-13 mm wide; flower stalks 1-6 cm long; petals absent; sepals 5 or 6, white or pinkish, oblong, 4-7 (8) mm long; stamens about 20, shorter than carpels.

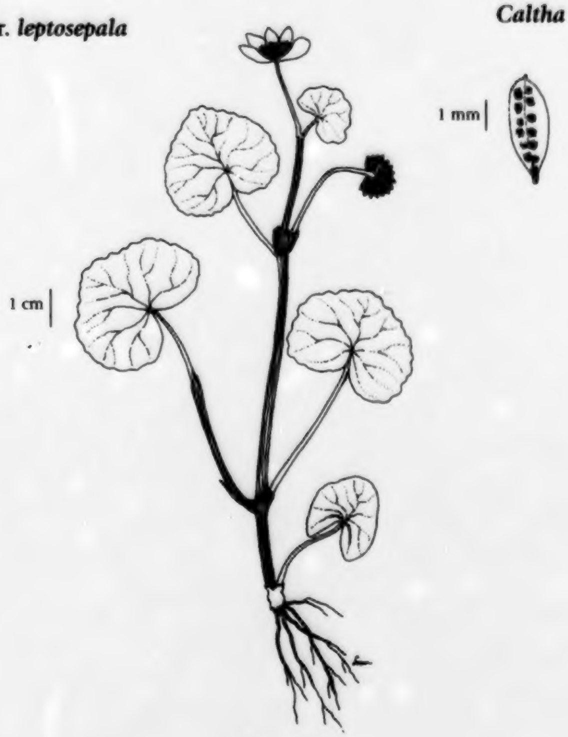
Fruits: Follicles, 20-55, unstalked, widely spreading, oblong, 3-6.5 mm long, 1-2.5 mm wide; beaks curved, 0.1-0.4 mm long; seeds brown, broadly elliptic, 0.5-0.8 mm long, surface wrinkled.



Caltha leptosepala var. leptosepala



Caltha leptosepala var. biflora



Caltha natans

Caltha palustris* L. var. *palustris (*C. asarifolia* DC., *C. palustris* ssp. *asarifolia* [DC.] Hult.)
yellow marsh-marigold; yellow elkslip

HABITAT/RANGE:

Bogs and shallow, brackish marshes in the lowland zone; rare along the coast; N to AK, YT and NT, E to NF and S to WV, TN, NC, NE and OR.

DESCRIPTION:

General: Perennial herb from a short, thick stem-base with fibrous roots; stems erect or ascending, or with age reclining and rooting at nodes, 10-60 cm tall/long; plants smooth.

Leaves: Basal leaves circular to egg-, kidney-, or heart-shaped, 2-13 cm long, 2-19 cm wide, margins entire to finely round-toothed, long-stalked; stem leaves 2 or more, smaller, short-stalked or unstalked.

Flowers: Inflorescence a 1- to 7-flowered cyme terminating the stem or branches, the flowers 1-4.5 cm wide; flower stalks leafy; petals absent; sepals 5 or 6, deep yellow or orange, broadly egg-shaped or elliptic, 10-25 mm long; stamens many.

Fruits: Follicles, 5 to 15 (25), spreading, unstalked, ellipsoid, 8-15 mm long, 3-4.5 mm wide; beaks straight or curved, 0.5-2 mm long; seeds brown, elliptic, 1.5-2.5 mm long, surface wrinkled.

Notes: We agree with Ford (1997) that infraspecific separation is not warranted due to environmental plasticity and the large number of intermediates encountered.

CIMICIFUGA

***Cimicifuga elata* Nutt.**
tall bugbane

HABITAT/RANGE:

Moist forests in the lower montane zone; rare in extreme SW BC, known only from the Cultus Lake-Chilliwack River area; S to NW OR.

DESCRIPTION:

General: Perennial herb from a woody rhizome; stems erect, branched above, 120-180 cm tall, sparsely minutely-hairy to woolly-hairy, glandular, especially above.

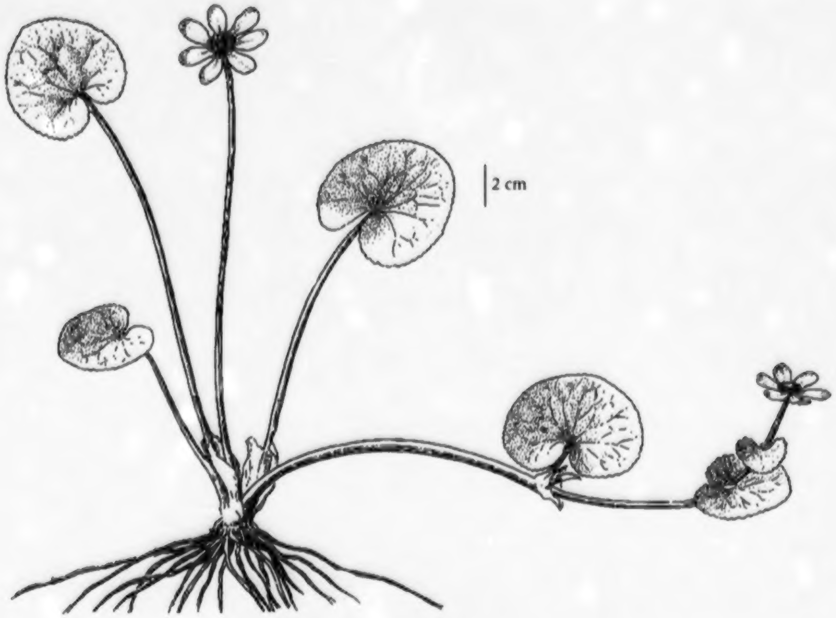
Leaves: Alternate, stalked, the stalks to 40 cm long, angled, grooved on stem side, basal wings clasping stem; leaves large, to 80 cm long, twice 3-parted, leaflets heart-egg-shaped, 5-18 cm long, 7-23 cm wide, usually 3-lobed and again shallowly and irregularly lobed and toothed, the teeth gland-tipped, palmately veined, pointy-tipped, fine-hairy beneath, smooth above, margins fringed.

Flowers: Inflorescence a terminal cluster of 4- to 14-flowered, raceme-like branches, 7-17 cm long, the inflorescence stalks subtended by 3 bracts, the central bract largest, lance awl-shaped; inflorescence glandular-hairy; flower stalks 1-8 mm long; petals absent; sepals 5, white or pinkish, egg-shaped, early deciduous; stamens 20-30, cream-coloured, showy, the outer sometimes broadened; pistils 1 to 3, glandular-hairy.

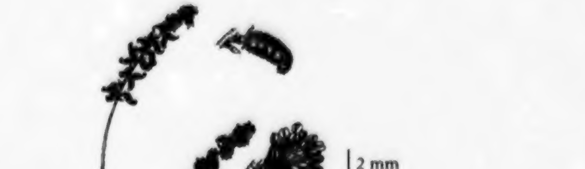
Fruits: Follicles, usually 1 in upper flowers, often 2 or rarely 3 in lower flowers of racemes, oblong, 8-12 mm long, somewhat flattened, thin-walled, finely glandular-hairy; unstalked or stalks to 2 mm long; seeds reddish to purplish-brown, lens-shaped, about 2 mm long, usually warty or wrinkled.

CLEMATIS

1. Sepals blue to reddish-purple .... *C. occidentalis*
1. Sepals bright yellow, cream or white.
    2. Sepals white; flowers imperfect, the plants dioecious, plants native .... *C. ligusticifolia*
    2. Sepals bright yellow or cream, if white then the flowers perfect; plants introduced.
        3. Sepals bright yellow .... *C. tangutica*
        3. Sepals cream or white .... *C. vitalba*



Caltha palustris var. *palustris*



Cimicifuga elata

Clematis ligusticifolia **Nutt. var.** ***ligusticifolia***

white clematis; white virgin's bower; pipestems

HABITAT/RANGE:

Moist streambanks, gullies, ditches, riparian thickets, and fencelines in the steppe and lower montane zones; frequent in SC and SE BC; E to MB and S to NM, AZ and CA.

DESCRIPTION:

General: Perennial woody vine from a rhizome; stems clambering or climbing, generally to 6 m long (up to 20 m), nearly smooth to densely short stiff-hairy or long soft-hairy; dioecious.

Leaves: Opposite, pinnately compound, the 5 to 7 leaflets stalked, broadly egg- to lance-shaped, 3-9 cm long, 1-7 cm wide, lobed or not, margins entire to coarsely few-toothed, smooth or sparsely soft-hairy on upper surfaces, especially on veins; the stalks persisting, acting as tendrils.

Flowers: Inflorescences axillary, compound cymes of 7 to 20 flowers on current year's stems, the flowers crowded, unisexual; flower stalks slender, 0.5-3 cm long; petals absent; sepals 4, wide-spreading, white to cream, egg-shaped to oblanceolate, 6-10 mm long, soft-hairy; stamens 25-50, pistillate flowers with sterile stamens; pistils 25-65, staminate flowers without vestigial pistils.

Fruits: Achenes, elliptic, 3-3.5 mm long, about 1.5 mm wide, silky-hairy; beaks 3-3.5 cm long, feathery-hairy.

Clematis occidentalis **(Hornem.) DC. ssp.** ***grosseserrata*** **(Rydb.) Tayl. & MacBr.** (*C. columbiana* [Nutt.] T. & G., *C. occidentalis* var. *grosseserrata* [Rydb.] Pringle, *C. verticillaris* DC. var. *columbiana* [Nutt.] A. Gray)

Columbia virgin's bower; blue clematis; blue virgin's bower

HABITAT/RANGE:

Mesic to dry rocky slopes, thickets, bluffs and open forests in the steppe to subalpine zones; frequent in S BC east of the Coast-Cascade Mountains, less frequent northward; E to SK and S to WA, ID and MT.

DESCRIPTION:

General: Perennial vine; stems climbing to 2 m high or trailing on the ground to 5 m long.

Leaves: Opposite, long-stalked, firm, 3-parted, the leaflets short-stalked, lance egg-shaped to triangular, 2-11 cm long, thin, not lobed or occasionally 1- to 3-lobed, margins usually entire, occasionally shallow-toothed, hairy when young, becoming smooth, tips pointed; the stalks persisting, acting as tendrils.

Flowers: Inflorescence of nodding or inclined, solitary flowers on long, erect stalks at ends of short branches from previous year's stems, rarely terminal on long shoots of current year's stems, the flowers bisexual; petals absent; sepals 4, usually becoming wide-spreading, violet-blue to pale blue, narrowly egg-shaped, 3-6 cm long, soft-hairy, tips sharp-pointed; stamens 20-50; pistils 40-175.

Fruits: Achenes, elliptic, soft-hairy; beaks 3-5 cm long, feathery-hairy.

Clematis tangutica **(Maxim.) Korsh. var.** ***tangutica*** (*C. orientalis* L. var. *tangutica* Maxim.)

golden clematis

HABITAT/RANGE:

Dry to mesic roadsides and disturbed areas in the lowland, steppe and montane zones; rare garden escape throughout BC; introduced from NW China, Mongolia and India.

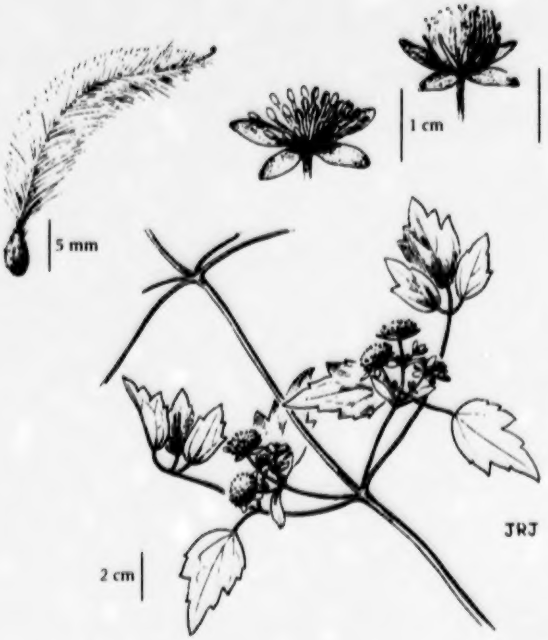
DESCRIPTION:

General: Perennial vine; stems climbing or trailing on the ground, to 3 m long, sparsely soft-hairy when young.

Leaves: Opposite, long-stalked, pinnately compound, the 5 to 7 leaflets short-stalked, lanceolate to oblong or elliptic, 2-6 cm long, 0.5-1.5 cm wide, not lobed or lobed in lower end, margins toothed, usually hairy above.

Flowers: Inflorescence of terminal and axillary solitary flowers (occasionally 2 or 3) on stalks 0.6-3 cm long, the flowers bisexual; petals absent; sepals 4, ascending, sometimes spreading near tip, bright yellow, lanceolate to elliptic, 1.8-3.4 cm long, length about 2.5x width, margins and outside silky-hairy, smooth inside; stamens 20 to 50, filaments hairy near base; pistils 80-150.

Fruits: Achenes, turgid, soft-hairy; beaks 2-4.5 cm long, feathery-hairy.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2 cm
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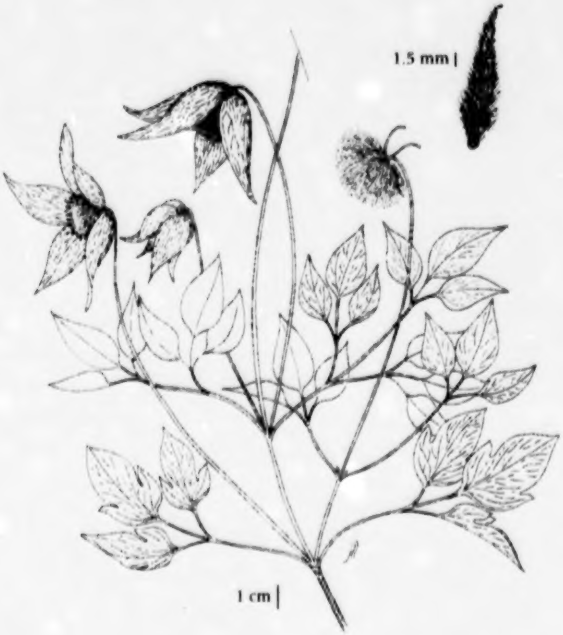
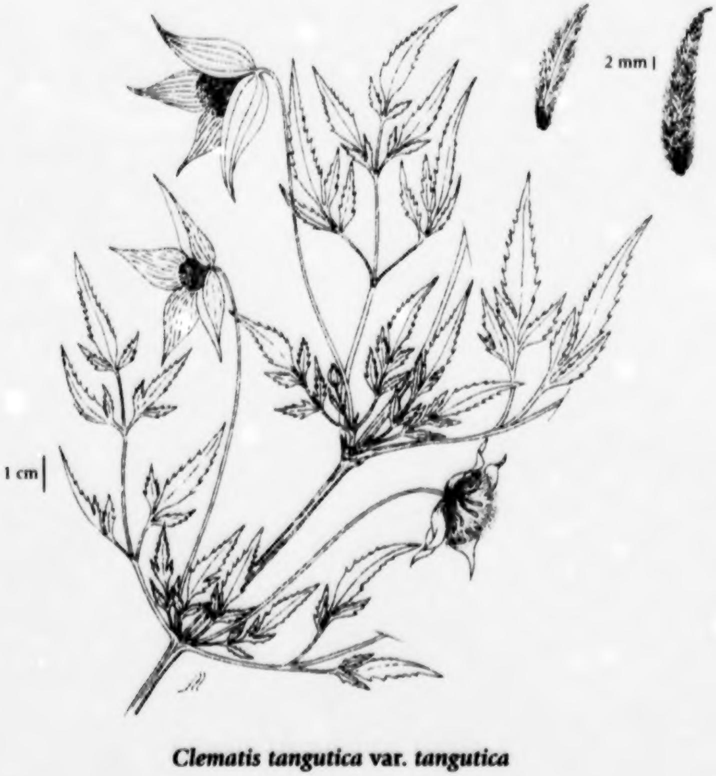
Clematis ligusticifolia var. *ligusticifolia*



Clematis occidentalis ssp. *grosseserrata*



Clematis tangutica var. *tangutica*

Clematis vitalba **L.**

traveler's joy

HABITAT/RANGE:

Mesic to dry roadsides and disturbed areas in the lowland zone; infrequent garden escape on SE Vancouver Island, the Gulf Islands and adjacent mainland; introduced from Eurasia and N Africa.

DESCRIPTION:

General: Perennial woody vine; stems climbing, to 12 m long, grooved, sparsely hairy.

Leaves: Opposite, long-stalked, pinnately compound, the leaflets 5, stalked, heart-shaped, to 8 cm long, 3-5 cm wide, coarsely toothed to entire, minutely-hairy on veins below, smooth above; the stalks act as tendrils.

Flowers: Inflorescence of axillary and terminal cymes of 5 to 22 flowers, the flowers bisexual; bracts small; flower stalks slender, 1-1.5 cm long, minutely-hairy; petals absent; sepals 4 (-6), wide-spreading, white to cream, elliptic or egg-shaped to oblanceolate, about 1 cm long, about 0.5 cm wide, densely woolly-hairy on both surfaces; stamens about 50; pistils 20 or more.

Fruits: Achenes, rounded, densely-hairy; beaks about 3.5 cm long, feathery-hairy.

CONSOLIDA

Consolida ajacis **(L.) Schur** (*C. ambigua* [L.] Ball & Heywood, *Delphinium ambiguum* L., *D. ajacis* L.)

rocket larkspur

HABITAT/RANGE:

Mesic to dry roadsides in the lowland zone; rare garden escape on SE Vancouver Island and the Gulf Islands; introduced from Europe.

DESCRIPTION:

General: Annual herb from a slender taproot; stems erect, 30-80 cm tall, smooth to sparsely fine-hairy.

Leaves: Alternate, 5 to 20 or more, semi-circular in outline, 1-5 cm wide, 12- to 60-times palmately dissected into linear segments less than 1.5 mm wide, entire; basal and lower stem leaves long-stalked, middle and upper leaves unstalked or nearly so, smooth to minutely-hairy.

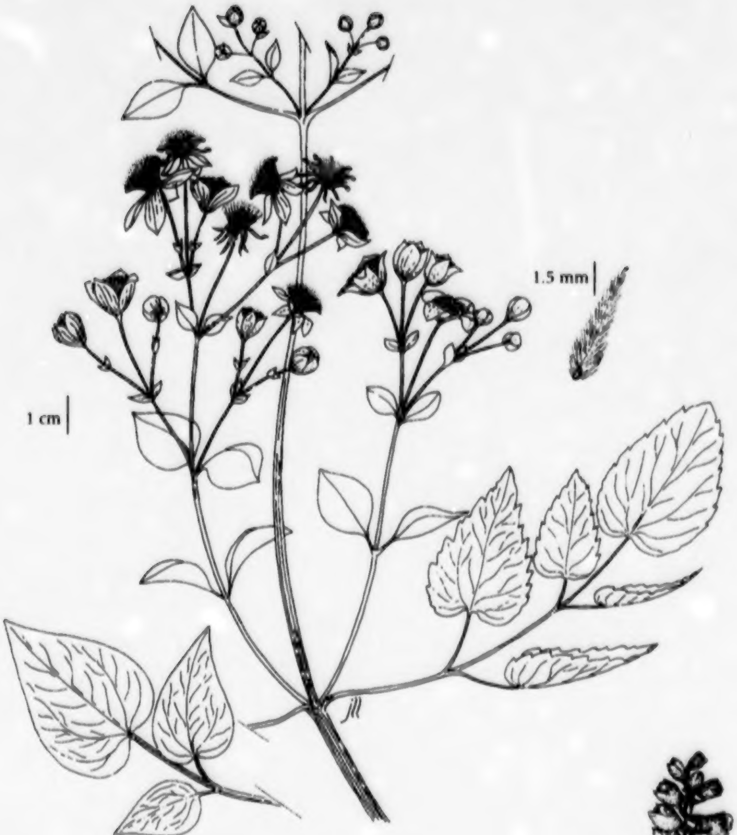
Flowers: Inflorescence a simple or branched, 6 to 30-flowered, terminal raceme, the flowers bilaterally symmetric; lower bracts somewhat leaf-like, the upper simple and linear; flower stalks ascending to spreading, 1-3 cm long, somewhat minutely-hairy; petals 2, blue to purple, rarely pink or white, united to form a corolla with ascending bifid lobe, two round lateral lobes, and a hollow, nectar-bearing spur, the lateral lobes 3-6 mm long, the terminal lobes 5-8 mm long, 2-4 mm wide, cleft 0.2-1 mm; sepals 5, same colour as petals, or darker, nearly smooth, the lower two 8-18 mm long, 4-8 mm wide, the lateral two, 8-18 mm long, 6-14 mm wide, the upper one spurred, the spur 12-20 mm long.

Fruits: Follicles, 12-25 mm long, minutely fine-hairy; seeds brown, with many transverse baffles.

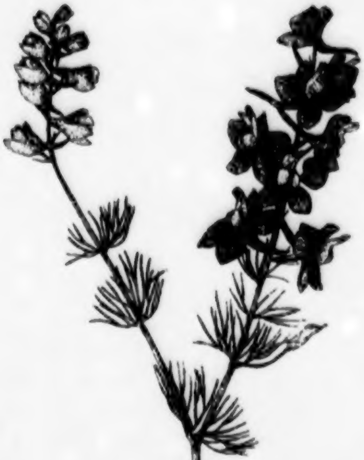
COPTIS

1. Leaflets 3, toothed, not markedly lobed; petals without a blade beyond the nectary; stems 1-flowered .... *C. trifolia*

1. Leaflets 5 or more, deeply lobed; petals with a linear blade extending beyond the basal gland; stems often more than 1-flowered .... *C. aspleniifolia*



Clematis vitalba



Consolida ajacis

***Coptis aspleniifolia* Salisb.**

spleenwort-leaved goldthread; fern-leaved goldthread

HABITAT/RANGE:

Moist to wet forests and bogs in the lowland and montane zones; common W of the Coast-Cascade Mountains in BC; N to SW AK and S to N WA.

DESCRIPTION:

General: Perennial herb from a yellow to pale brown rhizome; stems erect, 8-12 cm tall in flower, to 35 cm tall in fruit, smooth.

Leaves: Evergreen, all basal, stalked, 4-17 cm long, 2- or 3-times pinnately compound, occasionally twice 3-parted, the 5 or more leaflets short- to long-stalked, 2-6 cm long, egg-shaped, deeply lobed or incised, toothed.

Flowers: Inflorescence a 2- or 3-flowered cyme, the flowers nodding; bracts minute; flower stalks 1-4 cm long; petals 5-7, shorter than sepals, clawed, linear-lanceolate, bent back, flattened, nectary on inside surface near base; sepals 5-7, pale greenish-white, bent back and ascending, linear-lanceolate, 6-15 mm long, 0.3-1 mm wide; stamens 9-15.

Fruits: Follicles, 6 to 10, oblong, 7-10 mm long, spreading on stalks equal to or longer than fruit; beaks curved back, less than 1 mm long; seeds dark, ellipsoid, shiny, about 2 mm long.

***Coptis trifolia* (L.) Salisb.**

three-leaved goldthread

HABITAT/RANGE:

Wet forests and bogs in the lowland and montane zones; frequent W of the Coast-Cascade Mountains in BC, rare eastward; amphiberingian, N to AK, E to NF, and S to ME, WV, and MN; Siberia, Japan.

DESCRIPTION:

General: Perennial herb from a yellow to orange rhizome; stems erect, 3-12 cm tall, not elongating in fruit, minutely-hairy above.

Leaves: Evergreen, all basal, stalked, 2-11 cm long, 3-parted, the leaflets unstalked or short-stalked, egg-shaped, 1-2 cm long, slightly lobed, toothed, bases wedge-shaped.

Flowers: Inflorescence 1-flowered, erect; bracts minute; flower stalks 1-4 cm long; petals 5-7, half the length of sepals, club-shaped, fleshy, hollowed and with nectary near tip; sepals usually 5, whitish, spreading, oblanceolate to egg-shaped or elliptic, 4-11 mm long, 1-4 mm wide; stamens 30-60.

Fruits: Follicles, 4 to 7, spreading, elliptic, 4-8 mm long, on stalks equal to or longer than fruit; beaks straight but hooked at tip, 2-4 mm long; seeds dark, ellipsoid, 1-1.5 mm long, appearing wrinkled.

DELPHINIUM

1. Large buds (over 3 mm long) present at flowering time on rootcrowns, at least 1 bud found at base of specimens pulled from the ground; stems usually 2 or more per root; basal and lower stem leaves lacking at flowering time .... *D. glaucum*

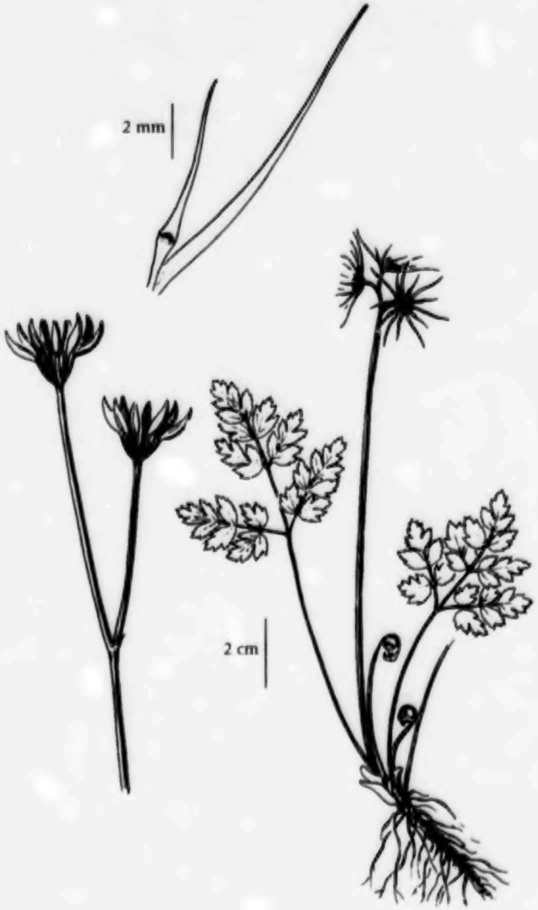
1. Large buds lacking at flowering time on the rootcrowns; stems 1 per root; basal and/or lower stem leaves present at flowering time.

  2. Axis of inflorescence to mid-flower stalk angle less than 30°; lower 2/3 of spur length usually intersecting axis of inflorescence .... *D. distichum*

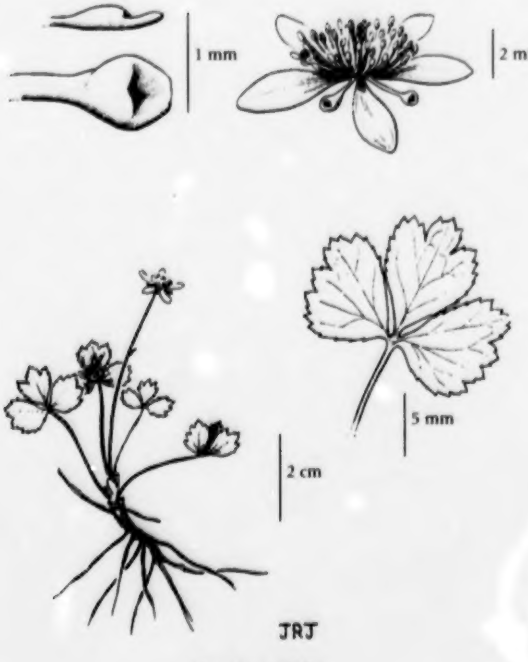
  2. Axis of inflorescence to mid-flower stalk angle more than 30°; spurs rarely intersecting axis of inflorescence (except sometimes in upper 1/3 spur length).

    3. Lower flower stalk internodes similar in length to those of the midstem; leaves similar throughout stem, the largest occurring near midstem; bracts (if present) similar to and gradually smaller than the leaves .... *D. glaucum*

    3. Lower flower stalk internodes much shorter than those of the midstem; leaves dissimilar, the lower leaves with fewer and wider lobes than those above; bracts (if present) markedly smaller and fewer lobed than the leaves.



Coptis aspleniifolia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5 mm
2 cm
JRJ

Coptis trifolia

4. Primary root segments dry, braided, strong; major root branches usually more than 1 cm from stem attachment; lateral sepals usually spreading.
    5. Leaves more or less succulent, clustered on lower stems; plants of the Cascade Mountains .... *D. glareosum*
    5. Leaves not succulent, clustered on lower stems or not; plants of the Rocky Mountains .... *D. bicolor*
4. Primary root segments more or less succulent; roots with single primary segment (cormlike) or branched within 1 cm of stem attachment; lateral sepals reflexed.
    6. Sepals dark bluish-purple, more or or less drab, often partly fading (especially on the veins giving the sepals of dried specimens a mottled appearance), short-hairy; lower stems short-hairy, sometimes glandular .... *D. menziesii*
    6. Sepals bright blue or purple, not drab, usually retaining colour upon drying, short-hairy or smooth; lower stems short-hairy or smooth.
        7. Inflorescence at least 3 times longer than wide; lower petals tan or yellowish .... *D. sutherlandii*
        7. Inflorescence less than 3 times longer than wide; lower petals blue (sometimes white) .... *D. nuttallianum*

Delphinium bicolor* Nutt. ssp. *bicolor

Montana larkspur

HABITAT/RANGE:

Dry grasslands, shrublands, rocky slopes and forests from the steppe to subalpine zones; rare in SE BC; E to SK and S to SD and WY.

DESCRIPTION:

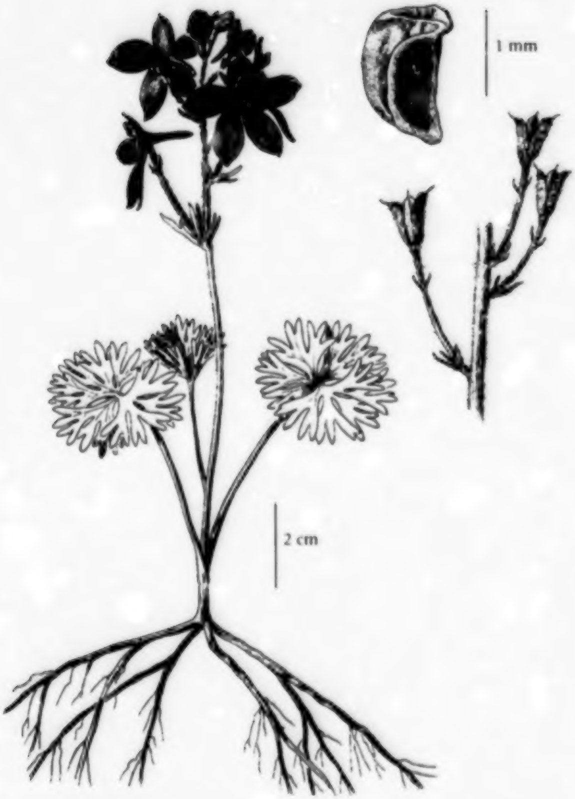
General: Perennial herb from fibrous, many-branched roots; stems erect, 10-40 cm tall, glabrous to minutely-hairy, bases often reddish.

Leaves: Mostly on lower stem, at time of flowering the basal leaves 2 to 7 and stem leaves 3 to 6, stalks 0.3-8 cm long, blades rounded, 1-4 cm long, 1.5-7 cm wide, reduced upward, 3- to 4-times dissected into linear segments, the ultimate segments 3 to 19 and 1-8 mm wide on basal leaves, 1-3 mm wide on stem leaves, entire, glabrous to minutely-hairy.

Flowers: Inflorescence a 3- to 12-flowered, terminal raceme, the flowers bilaterally symmetric; bracts linear, 4-6 (8) mm long, minutely-hairy; flower stalks ascending to spreading, 1-4 cm long, somewhat minutely-hairy; petals 4, the upper 2 united, white or pale blue, purple-lined, spurred, enclosed in upper sepal, nectary inside spur, the lower petals 2, dark blue, covering stamens, clawed, 7-12 mm long, 2-lobed, cleft 0.1-2 mm, the hairs sparse, short, white, mostly on inner lobes on claw; sepals 5, dark blue to purple, the lateral two spreading, 16-21 mm long, 6-11 mm wide, the lower two similar to lateral, the upper one spurred, the spur straight to gently curved downward, 13-18 mm long; stamens 25 to 40; pistils 3 (-5).

Fruits: Follicles, 16-22 mm long, 4- to 4.5-times longer than wide, usually minutely-hairy; beaks straight, about 3 mm long; seeds obpyramidal, dark, often winged, smooth.

Note: Toxic; known to cause livestock poisoning.



Delphinium bicolor ssp. *bicolor*

***Delphinium distichum* Gey. *ex* Hook.** (*D. x burkei auct non* Greene)
meadow larkspur

HABITAT/RANGE:

Wet to moist meadows in the montane zone; infrequent in SC and SE BC; S to MT, WY and OR.

DESCRIPTION:

General: Perennial herb from a thick cluster of somewhat fleshy, fibrous roots; stems erect, 30-80 (120) cm tall, bases sometimes reddish, short-hairy.

Leaves: Basal leaves soon deciduous; stem leaves 9-18, stalked, 3-parted, the leaflets unstalked, wedge-shaped, the blades semi-circular, 1-5 cm long, 1.5-7 cm wide, short-hairy, shallowly lobed, the ultimate segments 5-19, those of the basal leaves 2-8 (15) mm wide, those of the stem leaves 0.5-3 (5) mm wide.

Flowers: Inflorescence an 8- to 30-flowered terminal raceme, the flowers bilaterally symmetrical; bracts 0-3 mm below flowers; flower stalks short-hairy, 5-15 mm long; petals 4, blue, the lower ones covering the stamens; sepals dark blue to bluish-purple, 8-12 mm long, short-hairy, the spurs straight, horizontal, 9-15 mm long; stamens many; pistils 3 (5).

Fruits: Follicles, 7-13 mm long, 3.5- to 4-times longer than wide, more or less short-hairy and glandular; seeds angled, pale-fringed, roughened.

***Delphinium glareosum* Greene**
rockslide larkspur

HABITAT/RANGE:

Mesic rocky slopes in the subalpine and alpine zones; rare in SW BC, known only from Manning Provincial Park; S to OR.

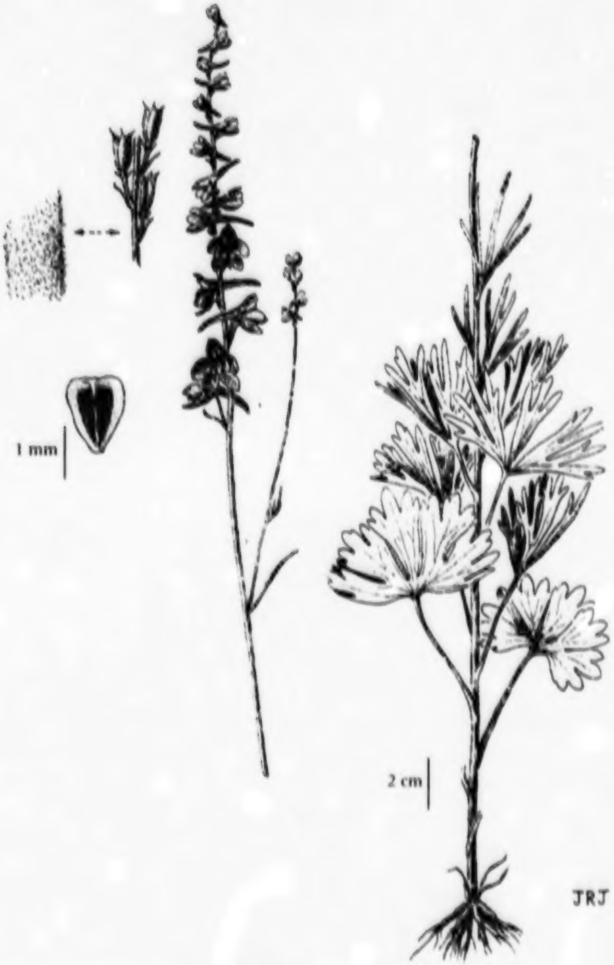
DESCRIPTION:

General: Perennial herb from a thick, branching, woody, fibrous root; stems erect, 20-40 cm tall, bases sometimes reddish, smooth, glaucous.

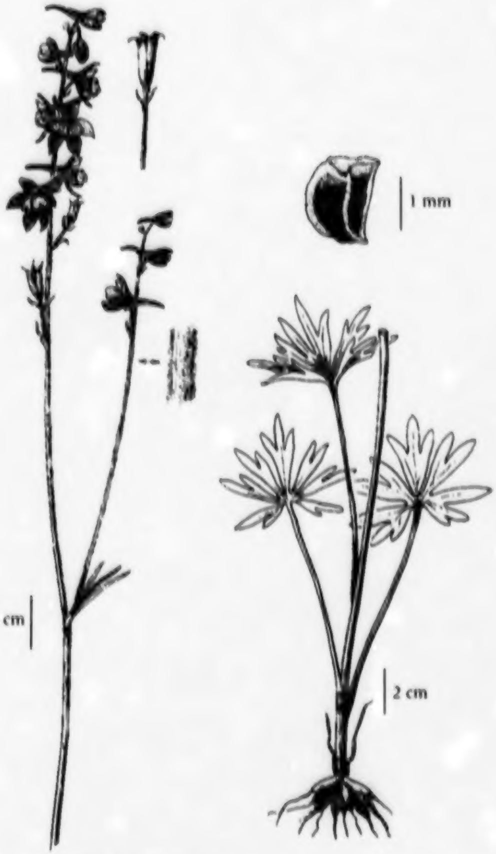
Leaves: Mostly on lower 1/3 of stem, at time of flowering the basal leaves 0-4 and stem leaves 3-6, stalks 1-17 cm long, blades round in outline, 2-4 cm long, 3-7 cm wide, the ultimate segments 7-15 and 3-10 mm wide on basal leaves, 2-7 mm wide on stem leaves, entire, succulent, smooth.

Flowers: Inflorescence a 5- to 12-flowered, terminal raceme, the bracts linear, green, 3-8 mm long, hairy; flower stalks 1-5 (10) cm long, nearly smooth to glandular short-hairy; petals 4, the lower 2 petals elevated and more or less covering the stamens, 6-9 mm long, 2-lobed, cleft 2-4 mm, the hairs white to light yellow, mostly on inner lobes near base of cleft; sepals 5, dark blue, nearly smooth, the lateral two spreading, 14-22 mm long, 6-10 mm wide, the spurs more or less straight, 16-22 mm; stamens many; pistils 3 (5).

Fruits: Follicles, 12-17 mm long, 2.5- to 3-times longer than wide, smooth; seeds angled, wing-margined, smooth.



Delphinium distichum



Delphinium glareosum

Delphinium glaucum **S. Wats.**

tall larkspur

HABITAT/RANGE:

Moist to mesic open forests, thickets, meadows and tundra from the montane to alpine zones; common throughout BC east of the Coast-Cascade Mountains, except southernmost BC; N to AK, YT and NT, E to MB and S to UT, CO, NV and CA.

DESCRIPTION:

General: Perennial herb from a thick, tough rootstock; stems 1 or more, hollow, erect, (60) 100-200 cm tall, mostly smooth, with a bloom, bases green.

Leaves: All stem leaves, alternate, 15 to 20 at time of flowering, stalks 1-14 cm long, blades round to 5-sided, 2-11 cm long, 3-18 cm wide, palmately divided into 5 (7) main broadly wedge-shaped segments, the segments shallowly 2- to 3-times lobed or toothed, the ultimate segments 5 to 9 (15) and 5-24 (35) mm wide, smooth.

Flowers: Inflorescence a 10- to 90-flowered, narrow, terminal raceme, sometimes branched, the flowers bilaterally symmetric; bracts linear, green to bluish, 2-7 mm long, smooth or minutely-hairy; flower stalks ascending, 1-3 cm long, smooth to minutely-hairy; petals 4, the upper 2 united, pale within, blue-streaked outside, spurred, enclosed in upper sepal, nectary inside spur, the lower petals 2, pale to dark blue, mostly covering stamens, clawed, 4-6 mm long, 2-lobed, cleft 1-3 mm, the hairs white, centred near base of cleft; sepals 5, usually bluish purple to lavender, minutely-hairy, the lateral two pointing forward to spreading, 8-14 mm long, 3-6 mm wide, the lower two similar to lateral, the upper one spurred, the spur straight, 10-15 mm long; stamens 20 to many; pistils 3.

Fruits: Follicles, 9-20 mm long, 3.5- to 4.5-times longer than wide, smooth to minutely-hairy; beaks straight, about 3 mm long; seeds pale to dark brown, winged, shining.

Notes: Toxic; known to cause livestock poisoning.

Delphinium menziesii **DC. ssp.** ***menziesii***

Menzies' larkspur

HABITAT/RANGE:

Mesic to dry grassy bluffs, meadows and forest openings in the lowland and lower montane zones; common in SW BC; S to OR.

DESCRIPTION:

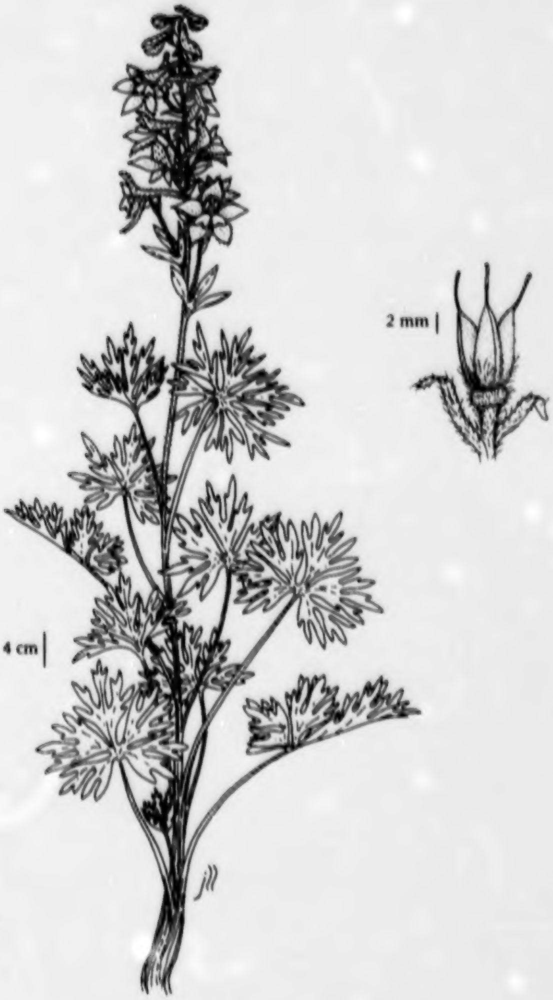
General: Perennial herb from tuberous roots; stems slender, erect, simple or branched above, 35-70 cm tall, minutely-hairy, sometimes glandular, bases often reddish.

Leaves: At time of flowering the basal leaves none to 4 and stem leaves 3 to 7, alternate, stalks 0.5-11 cm long, blades round, 1.5-5 cm long, 3-9 cm wide, reduced upward, palmately divided, the leaflets incised into narrowly oblong to linear segments, the ultimate segments 5 to 18 and 2-15 mm wide on basal leaves, 1-10 mm wide on stem leaves, entire, minutely-hairy.

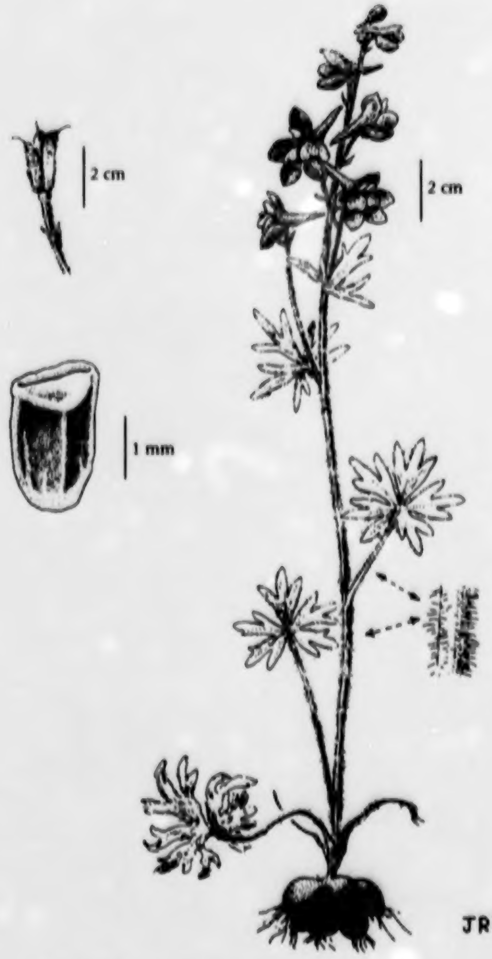
Flowers: Inflorescence a 3- to 15-flowered, terminal raceme, the flowers bilaterally symmetric; bracts linear, green to bluish, 4-6 mm long, minutely-hairy; flower stalks ascending, 1.5-4 cm long, minutely-hairy, sometimes glandular; petals 4, the upper 2 united, pale blue to white, spurred, enclosed in upper sepal, nectary inside spur, the lower petals 2, blue, mostly covering stamens, clawed, 8-12 mm long, shallowly notched at tip, the hairs white or blue, sparse, mostly near junction of blade and claw; sepals 5, blue to purple, minutely-hairy, the lateral two spreading, 13-20 mm long, 5-11mm wide, the lower two similar to lateral, the upper one spurred, the spur straight, 11-17 mm long; pistils 3.

Fruits: Follicles, 11-17 mm long, 3.5- to 4-times longer than wide, minutely-hairy; seeds obpyramidal, winged, smooth.

Notes: Toxic; known to cause livestock poisoning.



Delphinium glaucum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Delphinium menziesii ssp. *menziesii*

Delphinium nuttallianum **Pritz. *ex* Walpers**

upland larkspur

HABITAT/RANGE:

Mesic to dry grasslands, meadows, shrublands and open forests in the steppe and montane zones; common in S BC east of the Coast-Cascade Mountains; E to SW AB and S to NM, AZ, NV and CA.

DESCRIPTION:

General: Perennial herb from compact and tuberous-fleshy to fibrous and many-branched roots; stems erect, 10-40 (70) cm tall, smooth to very hairy, bases often reddish.

Leaves: Mostly on lower 1/4 of stem, at time of flowering the basal leaves 2 to 6 and stem leaves 2 to 10, alternate, stalks 0.4-12 cm long, blades round, 1-6 cm long, 2-12 cm wide, reduced and with fewer segments upward, 2- to 4-times palmately parted or lobed into linear segments, the ultimate segments 5 to 21 and 1-7 (14) mm wide on basal leaves, 0.5-6 mm wide on stem leaves, entire, nearly smooth.

Flowers: Inflorescence a 4- to 18-flowered, terminal raceme, the flowers bilaterally symmetric; bracts linear, green to bluish, 3-7 mm long, smooth to hairy; flower stalks ascending to spreading, 0.8-6 cm long, smooth to hairy; petals 4, the upper 2 united, almost white, blue-veined, spurred, enclosed in upper sepal, nectary inside spur, the lower petals 2, blue to purple (except when white-flowered), elevated and exposing stamens, clawed, 4-11 mm long, 2-lobed, cleft 2-5 mm, the hairs white, rarely yellow, mostly on inner lobes on claw; sepals 5, usually bluish purple, rarely white to pink, minutely-hairy, the lateral two bent back or spreading, 8-21 mm long, 3-10 mm wide, the lower two similar to lateral, the upper one spurred, the spur gently curved downward to straight, 8-23 mm long; stamens 10 to many; pistils 3 (-5).

Fruits: Follicles, 7-22 mm long, 3- to 3.5-times longer than wide, smooth to minutely-hairy, beaked; seeds obpyramidal, winged or not, smooth or rough.

Notes: Toxic; known to cause livestock poisoning.

Delphinium sutherlandii **Warnock**

Sutherland's larkspur

HABITAT/RANGE:

Mesic to dry shrublands and open forests in the montane zone; rare in SE BC; S to E WA, N ID and NW MT.

DESCRIPTION:

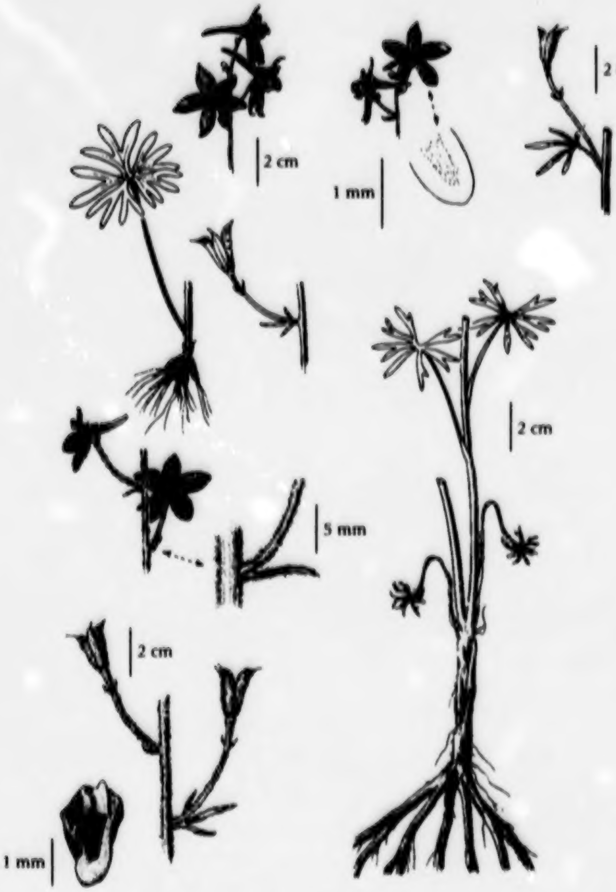
General: Perennial herb from compact and tuberous to fibrous, many-branched roots, the roots often fleshy; stems erect, (15) 30-70 cm tall, smooth, bases often reddish.

Leaves: Distribution various on stems, at time of flowering the basal leaves 0-2 and stem leaves 3-7, stalks 0.4-14 cm long, blades round, 1.5-10 cm long, 3-18 cm wide, the ultimate segments 5-21 and 3-9 (15) mm wide on basal leaves, 0.5-6 (10) mm wide on stem leaves, entire, nearly smooth.

Flowers: Inflorescence an 11- to 16- (37-) flowered, terminal raceme, the flowers bilaterally symmetrical; bracts linear-lanceolate, green to blue, 2-7 mm from flowers, short-hairy; flower stalks 1-3 cm long, short-hairy; petals 4, the lower 2 petals white, yellowish or tan, slightly elevated and more or less covering the stamens, 8-12 mm long, 2-lobed, the clefts 2-4 mm, the hairs white, mostly on or below junction of blade and claw; sepals 5, dark blue, short-hairy, the lateral two spreading, 14-20 mm long, 5-10 mm wide, the spurs curved downward, 14-18 mm long; stamens many; pistils 3 (5).

Fruits: Follicles, (13) 18-25 mm long, 4.5-5 times longer than wide, short-hairy; seeds winged on the margins, rough.

Notes: Toxic; known to cause livestock poisoning.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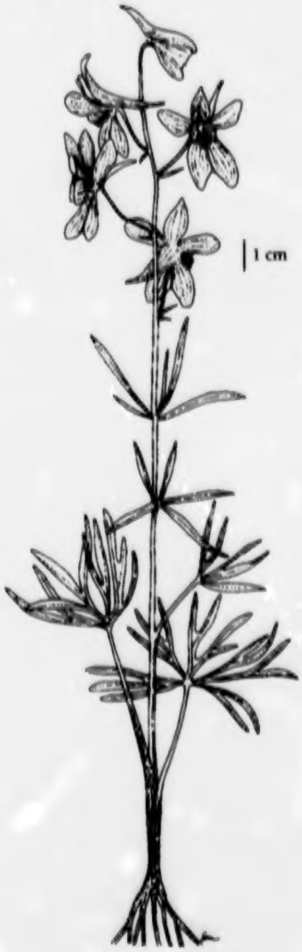
Delphinium nuttallianum



Delphinium sutherlandii

ENEMION

Enemion savilei (Calder & Tayl.) Keener (_Isopyrum savilei_ Calder & Tayl.)

Queen Charlotte false rue-anemone; Queen Charlotte isopyrum

HABITAT/RANGE:

Moist shady cliffs, rocky gullies and talus slopes from the lowland to alpine zones; locally frequent on N Vancouver Island, the Queen Charlotte Islands and adjacent coast (Porcher Island); endemic.

DESCRIPTION:

General: Perennial herb from rhizomes and fibrous roots; stems erect, 10-35 cm tall, smooth.

Leaves: Long-stalked, ascending, usually twice 3-parted, the leaflets irregularly deeply to shallowly lobed, short-stalked, tips rounded and commonly minutely-notched with tiny gland at end of vein, smooth above, with a bloom beneath.

Flowers: Inflorescence generally a solitary, terminal flower, occasionally a loose, 2-flowered, leafy cyme; petals absent; sepals 5 (-9), white, sometimes pink-tinged at tips, egg-shaped, 10-17 mm long, 7-11 mm wide; stamens 40-60; pistils 2-10.

Fruits: Follicles, oblong, 11-15 mm long, 3- to 3.5-times longer than wide, upright to diverging; beaks 0.8-1.7 mm long; seeds reddish-brown, egg-shaped, 2-2.5 mm long, smooth.

MYOSURUS[27]

1. Beak of the achenes well developed, more than 0.5 mm long; mature spikes mostly 5-10 mm long; sepals usually 1-veined .... *M. apetalus*

1. Beak of the achenes inconspicuous, usually less than 0.5 mm long; mature spikes mostly 15-50 mm long; sepals 3-, rarely 5-veined .... *M. minimus*

Myosurus apetalus Gay var. _borealis_ Whittemore (*M. aristatus auct. non* Benth. *ex* Hook., *M. minimus* var. *aristatus* [Benth. *ex.* Hook.] Boivin)

bristly mousetail; sedge mousetail

HABITAT/RANGE:

Vernally moist meadows, streambanks and pools in the steppe zone; rare in SC BC; S to MT, WY, UT, NV and CA.

DESCRIPTION:

General: Annual herb from taproot; stems erect, 1-12 cm tall.

Leaves: In basal clump, simple, linear or narrowly oblanceolate, 0.9-4 cm long, entire.

Flowers: Inflorescences of solitary, terminal flowers; flower shoots 1-12 cm long, shorter than leaves when flowering, but longer in fruit; bracts none; petals none to 5, distinct, white, linear to narrowly spoon-shaped, 1-2.5 mm long, long-clawed, the claw 1- to 2-times as long as blade, nectary on upper surface; sepals (3) 5 (-8), green with wide membranous margins, narrowly oblong, 1.5-2.5 mm long, spurred, the blades slightly longer than spurs, usually 1-veined; stamens usually 5; pistils 20-50 (90).

Fruits: Achenes, 20 to 50 or more in a spike 4-10 mm long, 1.5-2 mm wide; beaks diverging, 0.6-1.4 mm long; seeds 1.5 times as long as wide.

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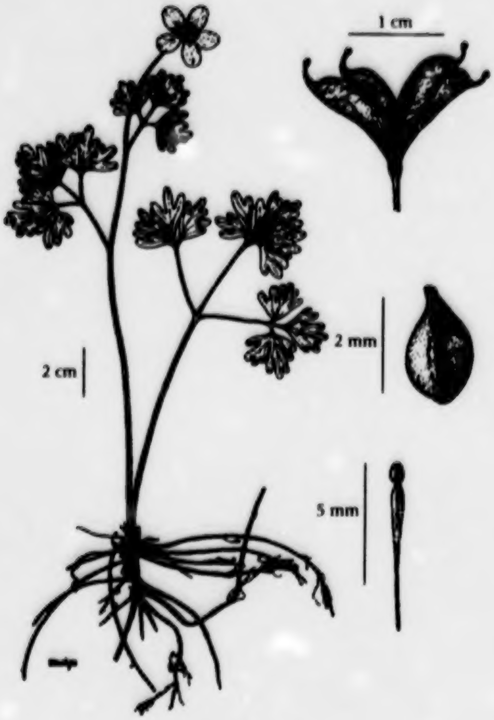
[27] Key adapted from Hitchcock and Cronquist (1973).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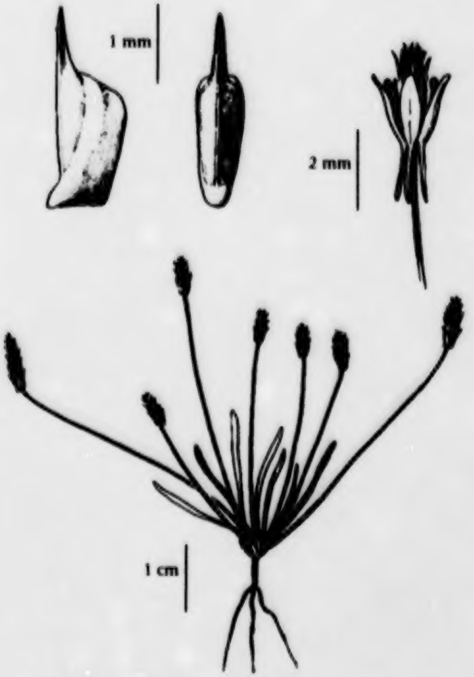
Enemion savilei



Myosurus apetalus* var. *borealis

Myosurus minimus **L.** (*M. minimus* var. *major* [Greene] Davis)

tiny mousetail; least mousetail

HABITAT/RANGE:

Wet meadows, streambanks, seepage sites and vernal pools in the lowland and steppe zones; infrequent on Vancouver Island, the Gulf Islands and SC BC; E to ON and S to VA, NC, TX, NM, AZ and CA; S Europe.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, 4-15 cm tall.

Leaves: In basal clump, simple, linear or narrowly oblanceolate, 2-10 cm long, entire.

Flowers: Inflorescences of solitary, terminal flowers; flower shoots 4-15 cm long, shorter than leaves when flowering, but longer in fruit; bracts none; petals none to 5, distinct, white, linear to narrowly spoon-shaped, 1-2 mm long, long-clawed, the claw 1- to 2-times as long as blade, nectary on upper surface; sepals (3) 5 (-8), green, or with narrow membranous margins, narrowly oblong, 1.5-3 mm long, spurred, the blades slightly longer than spurs, 3- to 5-veined; stamens 5 to 10; pistils 60 to 100.

Fruits: Achenes, 60 to 100 or more in a spike 16-50 mm long, 1-3 mm wide; beaks straight, 0.05-0.4 mm long.

RANUNCULUS

Notes: Phenotypic plasticity, especially in vegetative parts of the plants, is extremely marked in the genus *Ranunculus*. The number of taxa described within each species complex is usually a good indication of the amount of variation or plasticity in the complex. Many taxonomists have been reluctant to accept such wide variation within a single variable taxon. Thus they recognize numerous infraspecific entities, mainly on an arbitrary basis. Since this variation is due in large part to environmental conditions, it is not surprising to find that often the majority of herbaria specimens are intermediate between two 'infraspecific' taxa. In this treatment, especially where intermediates are the norm and therefore unkeyable (at least in a practical sense) or unmappable, 'infraspecific' taxa have usually been combined. This practical approach seems best until adequate studies show otherwise.

1. Petals white or whitish.
    2. Plants smooth; receptacles smooth; achenes 2-7, smooth .... *R. lobbii*[28]
    2. Plants more or less hairy; receptacles stiff-hairy; achenes 10-80, smooth or more usually stiff-hairy .... *R. aquatilis*
1. Petals yellow or yellowish.
    3. Leaves entire to serrate, sometimes shallowly lobed; achenes smooth.
        4. Achenes 50-200 in a cylindric or long, egg-shaped head, strongly veined .... *R. cymbalaria*
        4 Achenes less than 60 in a more or less globular head, not strongly veined.
            5. Stems decumbent to prostrate, rooting at the nodes; nectary scales shallowly cup-shaped, wider than long .... *R. flammula*
            5. Stems erect, not rooting at the nodes; nectary scales broadly egg-shaped, as long as wide .... *R. alismifolius*
    3. Leaves all, or in part, deeply lobed to compound or dissected, if simple then the achenes finely hairy.
        6. Plants aquatic or semi-aquatic.
            7. Plants annuals, erect, not nodally rooting; achene beaks inconspicuous .... *R. sceleratus*
            7. Plants perennials, usually floating or reclining, nodally rooting; achene beaks conspicuous.
                8. Leaves 3-lobed or -parted, the segments mainly entire .... *R. hyperboreus*
                8. Leaves 3- to 5-lobed or -parted, the segments again lobed or parted.

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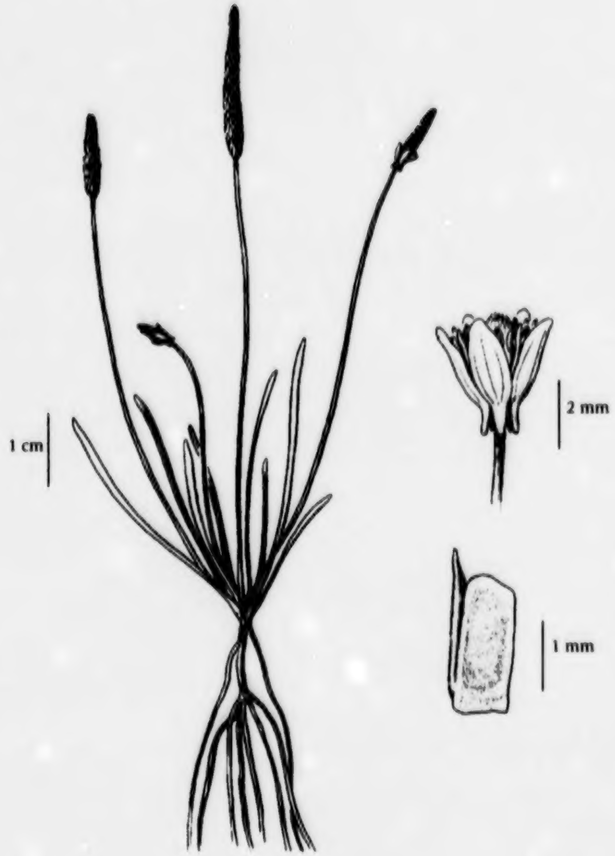
[28] This species has not been collected since 1924 and is probably extirpated in BC. It has been included in the excluded species section.



Myosurus minimus

9. Achenes 1.8-2.2 mm long, beaks 1-1.8 mm long; petals 7-12 mm long .... *R. flabellaris*

9. Achenes 1-1.6 mm long, beaks 0.4-0.8 mm long; petals 3-7 (10) mm long .... *R. gmelinii*

6. Plants not aquatic or semi-aquatic though often found in wet sites.

10. Achenes densely woolly-hairy, the beaks lanceolate (dagger-like), straight, 3.5-4.5 mm long; plants annuals .... *R. testiculatus*

10. Achenes not woolly-hairy, the beaks various; plants perennials.

11. Achenes strongly veined; petals 11-15 .... *R. cooleyae*

11. Achenes not strongly veined; petals usually 5.

12. Sepals 3, rarely 4.

13. Petals 5-6; achenes smooth, beaked; common native perennial of N BC .... *R. lapponicus*

13. Petals 8-12; achenes hairy, beakless; rare introduced perennial of SW BC .... *R. ficaria*

12. Sepals 5, rarely more.

14. Sepals covered with reddish-brown or blackish hairs.

15. Receptacles brown-hairy; achenes 50-90 .... *R. sulphureus*

15. Receptacles smooth; achenes 40-50 .... *R. nivalis*

14. Sepals smooth to hairy, if densely soft-hairy then the hairs whitish or yellowish.

16. Achenes strongly compressed, often disk-like, never hairy, usually distinctly keeled.

17. Achenes sparsely pimpled or smooth, margins thickened.

18. Achenes pimpled; stem bases not bulbous; petals 4-8 mm wide ...... *R. sardous*

18. Achenes smooth; stem bases bulbous (cormlike); petals 8-11 mm wide .... *R. bulbosus*

17. Achenes smooth or more or less hairy, margins not thickened.

19. Petals shorter than or barely surpassing the sepals, usually less than 7 mm long.

20. Basal leaf blades simple and lobed or parted; receptacles smooth; achene beaks hooked .... *R. uncinatus*

20. Basal leaf blades compound, the leaflets usually stalked; receptacles more or less short-hairy; achene beaks straight or nearly so.

21. Fruiting receptacles up to 12 mm long; achene beaks 0.6-0.8 mm long; petals shorter than the sepals; stems erect, never nodally rooting .... *R. pensylvanicus*

21. Fruiting receptacles up to 5 mm long; achene beaks 1-1.2 mm long; petals equal to or slightly exceeding the sepals; stems often somewhat decumbent, rooting nodally .... *R. macounii*

19. Petals markedly longer than the sepals, usually well over 7 mm long.

22. Stems prostrate to decumbent, rooting at lower nodes; flowers rarely double; plants introduced .... *R. repens*

22. Stems erect or spreading to decumbent, never rooting nodally; flowers not double; plants native.

23. Petals 8-16, or more; stems spreading to decumbent; plants rare on extreme SE Vancouver Island and adjacent islands .... *R. californicus*

23. Petals usually 5, rarely 8; stems more or less erect; plants common along the coast or in S BC.

24. Basal leaves pinnately 3- to 5-lobed or -parted; the beaks of achenes 2-3.8 mm long, straight .... *R. orthorhynchus*

24. Basal leaves seldom pinnately lobed; the beaks of achenes 0.3-2 mm long, conspicuously to slightly curved.

25. Achenes 2-2.5 mm long, the beaks 0.3-0.6 mm long; sepals spreading ...... *R. acris*

25. Achenes 2.6-3.6 mm long, the beaks (0.6) 1-1.6 mm long; sepals bent back .... *R. occidentalis*

16. Achenes only moderately compressed, smooth to finely hairy, not noticeably keeled.

26. Achenes in a globular or semiglobular cluster; petals 6-15 mm long.

27. Achenes smooth; scale of the nectary usually not cilitate on the upper margin; plants of NE BC .... *R. rhomboideus*

27. Achenes usually minutely hairy; scale of the nectary usually finely ciliate on the upper margin; plants of C and S BC .... *R. glaberrimus*

26. Achenes in an elongate cluster; petals usually less than 6 mm long.

28. Achenes finely hairy to glabrate.

29. Petals (if any) 2-6, rarely 8; sepals smooth or thinly hairy .... *R. inamoenus*

29. Petals 8-15; sepals soft-hairy.

30. Basal leaves 5- to 7-lobed at least half their length; nectary gland not fringed with long hairs .... *R. pedatifidus*

30. Basal leaves, or at least some of them, merely round-toothed or lobed less than half their length; nectary gland fringed with long hairs .... *R. cardiophyllus*

28. Achenes smooth.

31. Petals usually over 7 mm long, if shorter then the achene beaks straight and the leaves shallowly to deeply lobed .... *R. eschscholtzii*

31. Petals 1.5-5 mm long.

32. Stems erect, 10-60 cm tall; leaves mostly round-toothed to round-lobed .... *R. abortivus*

32. Stems usually spreading, 3-20 cm tall; leaves deeply to shallowly 3-parted.

33. Petals 1.5-3.5 mm long; basal leaf blades less than 1 cm long; achene beaks often straight; sometimes curved .... *R. pygmaeus*

33. Petals 3.5-5 mm long; basal leaf blades, or at least some of them, over 1 cm long; achene beaks curved .... *R. gelidus*

***Ranunculus abortivus* L.** (*R. abortivus* var. *acrolasius* Fern.)

kidney-leaved buttercup

HABITAT/RANGE:

Wet to moist clearings, meadows, streambanks, shores and ditches from the lowland to subalpine zones; frequent throughout BC east of the Coast-Cascade Mountains, rare along the coast; N to AK, YT and NT, E to NF and S to ID, CO, FL, TX and WA, Cuba.

DESCRIPTION:

General: Biennial or short-lived perennial herb from a cluster of fibrous roots; stems usually single, erect or nearly so, 10-60 cm tall, smooth, hollow.

Leaves: Basal, persistent, round to kidney-shaped, not divided, but sometimes inner ones 3-parted or -lobed, 1.5-4 cm long, 2-5 cm wide, base shallowly to deeply notched, margins round-toothed to round-lobed, the stalks up to 10 cm long; lower stem leaves similar to basal, but often deeply 3-lobed or -parted; upper stem leaves and bracts divided into 3 to 5 linear or narrowly lanceolate, entire segments.

Flowers: Inflorescence a 3- to 50-flowered cyme; flower stalks to 10 cm long, smooth or nearly so; receptacle sparsely long-hairy; petals 5, distinct, yellow, fading to white, 1.5-3.5 mm long, 1-2 mm wide, nectary on upper surface, the nectary scale smooth, 0.5-0.7 mm long; sepals 5, spreading to bent back, early deciduous, greenish-yellow and usually purplish-tinged, 2.5-4 mm long, 1-2 mm wide, smooth above; stamens 15-30; pistils 20-40 (50).

Fruits: Achenes, 20 to 50 in an egg-shaped head 3-6 mm long, 2.5-5 mm wide, the achenes egg-shaped, 1.4-1.6 mm long, 1-1.5 mm wide, smooth; beaks awl-shaped, curved, 0.1-0.2 mm long.

***Ranunculus acris* L.**

meadow buttercup

HABITAT/RANGE:

Moist to mesic meadows, pastures, clearings, fields and roadsides in the lowland, steppe and montane zones; frequent in BC S of 56°N; introduced from Eurasia.

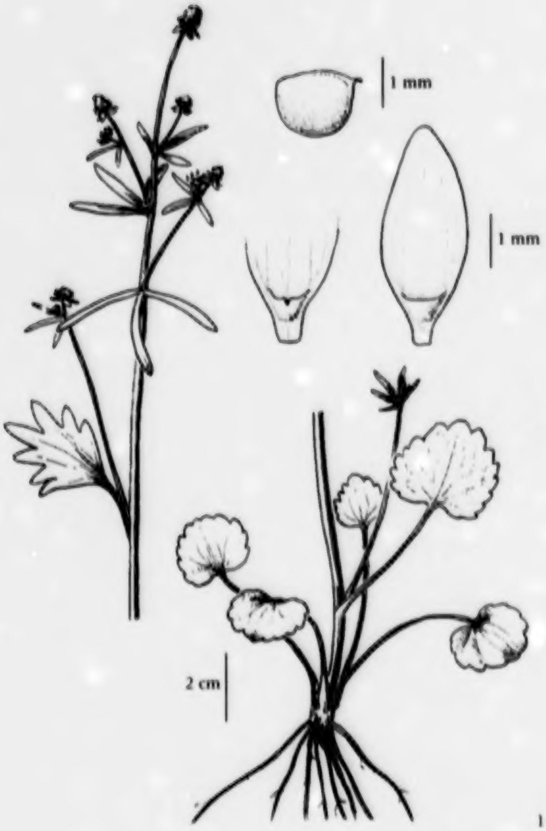
DESCRIPTION:

General: Perennial herb from fibrous-rooted stem-base, sometimes with rhizomes; stems single, erect or nearly so, 20-110 cm tall, stiff-hairy or smooth, hollow.

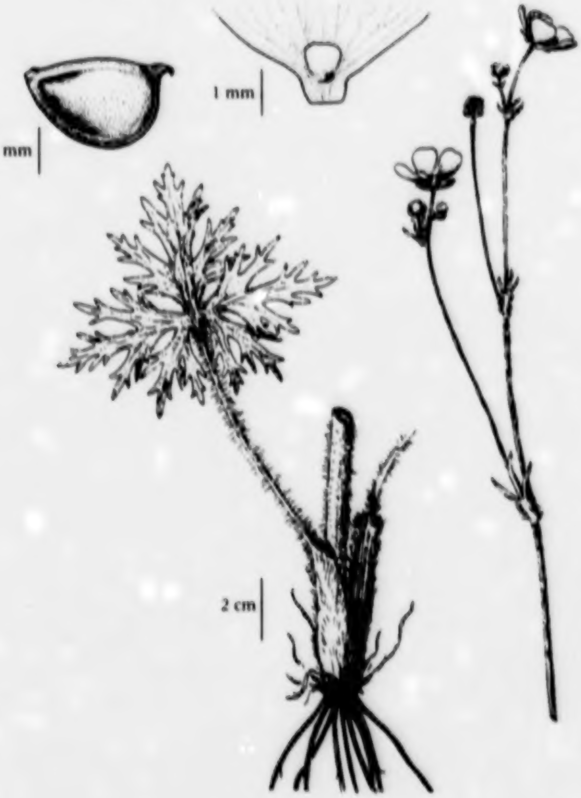
Leaves: Basal 5-sided in outline, deeply 3- to 5-parted, 2-5 cm long, 3-10 cm wide, the leaflets 1- to 2-times incised, the ultimate segments narrowly elliptic or oblong to lanceolate, margins toothed or shallowly lobed, tips pointed to rounded, the stalks up to 20 cm long; lower stem leaves similar to basal, but shorter-stalked, transitional to the upper stem leaves and bracts, these reduced to 3 linear segments unstalked on the sheath, entire or few-toothed.

Flowers: Inflorescence few- to many-flowered cymes; flower stalks to 12 cm long; receptacle smooth; petals usually 5, distinct, yellow, 8-14 mm long, 7-13 mm wide, nectary on upper surface, the nectary scale smooth, just over 1 mm long; sepals 5, spreading, early deciduous, greenish, 4-6 mm long, 2-5 mm wide, long stiff-hairy; stamens 15-30; pistils 20-40 (50).

Fruits: Achenes, 15 to 50 in a globe-shaped head 5-7 mm wide, the achenes egg-shaped, 2-3 mm long, 1.8-2.4 mm wide, smooth, margins prominent, keeled; beaks wide and flattened, 0.2-1 mm long, tip of variable length, curved or straight, awl-tipped.



Ranunculus abortivus



Ranunculus acris

Ranunculus alismifolius* Geyer ex Benth. var. *alismifolius

water-plantain buttercup

HABITAT/RANGE:

Wet ponds and shorelines to moist meadows in the lowland zone; rare in SW BC, known only from Victoria and Ballenas Island; S to ID, MT and CA.

DESCRIPTION:

General: Perennial herb from fibrous or slightly tuberous roots; stems one to several, erect to ascending, branched in inflorescence, 15-60 cm tall, soft-hairy or smooth, somewhat hollow.

Leaves: Basal and stem leaves lanceolate or narrowly egg-shaped, the blades 2-14 cm long, 0.7-3 cm wide, entire or slightly toothed, bases abruptly narrowed or rounded, tips pointed to blunt, the stalks stout, as long or longer than blades; stem leaves with shorter stalks, alternate; reduced to unstalked bracts above, sometimes opposite.

Flowers: Inflorescence few- to several-flowered cymes; flower stalks lengthening in fruit, to 15 cm long; receptacle smooth; petals 5 (to 12), distinct, yellow, 5-14 mm long, 2-8 mm wide, nectary on upper surface, the nectary scale smooth, broadly egg-shaped; sepals 5, spreading or bent back from base, 2-6 mm long, 1-4 mm wide, somewhat hairy; stamens 25-90; pistils 10-60.

Fruits: Achenes, 10 to 60 in an egg- to globe-shaped head 3-7 mm long, 4-8 mm wide, the achenes plump, 1.6-2.8 mm long, 1.2-2 mm wide, smooth or rarely stiff-hairy; beaks lanceolate to awl-shaped, straight or somewhat curved, 0.4-1.2 mm long.

***Ranunculus aquatilis* L.** (*R. amphibius auct. non* James, *R. aquatilis* var. *subrigidus auct. non* [W. Drew] Breit., *R. aquatilis* var. *capillaceus* [Thuill.] DC., *R. subrigidus auct. non* W. Drew, *R. circinatus* Sibth. var. *subrigidus auct. non* [W. Drew] Benson = var. *diffusus*; *R. aquatilis* var. *hispidulus* W. Drew, *R. trichophyllus* [Chaix] Bosch var. *hispidulus* [E. Drew] W. Drew = var. *aquatilis*)

white water-buttercup

HABITAT/RANGE:

Ponds and slow-moving streams in the lowland, steppe and montane zones; var. *diffusus* – common throughout BC, var. *aquatilis* – infrequent in S BC east of the Coast-Cascade Mountains; var. *diffusus* – throughout N.A. north of MX, var. *aquatilis* – circumpolar, N to AK, YT and NT and S to MT, WY, UT, TX, CA and MX; Eurasia, S America.

DESCRIPTION:

General: Aquatic, perennial herb, rooting from nodes of lower stems; stems weak, few-branched, creeping or floating, 20-80 cm long, often mat-forming, smooth.

Leaves: All alternate stem leaves, of two possible types, the floating leaves usually kidney-shaped, 3-parted, 5-8 mm long, 9-15 mm wide, the leaflets elliptic or egg-shaped, margins often notched, unstalked or the stalks 15-40 mm long, the submerged leaves 3 to 5 times 3-dissected, the segments thread-like, the stalks 1-12 mm long; leaves, stalks and stipule-sheaths usually fine-hairy.

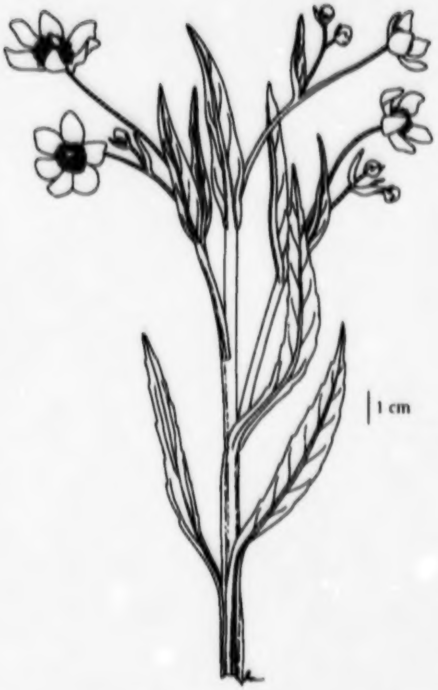
Flowers: Inflorescences of solitary flowers, on stalks 7-50 mm long, from leaf axils, appearing opposite to leaves; receptacle stiff-hairy, rarely smooth; petals 5, distinct, white, or yellow at base, 4-10 mm long, 1-5 mm wide, nectary on upper surface, the nectary scale very small, wider than long; sepals 5, spreading or bent back, early deciduous, egg-shaped, 2-4 mm long, 1-2 mm wide, smooth; stamens 14-22; pistils 10-20.

Fruits: Achenes, 10 to 20 in an egg- to globe-shaped head 2-4 mm long, 2-5 mm wide, the achenes egg-shaped, flattened, 1-2 mm long, 0.8-1.4 mm wide, smooth or stiff-hairy; beaks persistent, thread-like, 0.1-1.2 mm long.

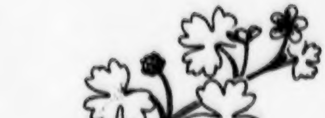
Notes: The taxonomy of the *R. aquatilis* complex, at least in North America, remains unclear. The treatment by Whittemore (1997), which we have followed, has included some of our W North American plants with the Eurasian var. *aquatilis*. The recognition of only two varieties in BC, at least until taxonomic problems are resolved, appears to be the only realistic treatment.

1. Floating leaves simple and dissimilar to the submerged, filiform leaves .... var. *aquatilis*

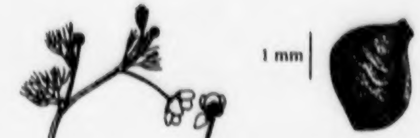
1. Floating leaves, if any, similar to the submerged, filiform leaves .... var. *diffusus* With.



Ranunculus alismifolius var. *alismifolius*



Ranunculus aquatilis var. *aquatilis*



Ranunculus aquatilis var. *diffusus*

***Ranunculus bulbosus* L.**

bulbous buttercup

HABITAT/RANGE:

Mesic to dry waste areas in the lowland zone; rare in SW BC, known only from Deep Cove, Saanich Peninsula; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a bulbous, corm-like stem-base with fibrous roots; stems 1 to 3, erect, 15-70 cm tall, short or long stiff-hairy.

Leaves: Basal egg- to heart-shaped, 3-parted, rarely deeply divided, 2-5 cm long, 2.5-5.5 cm wide, the leaflets 1- or 2-times lobed, the ultimate segments oblong to egg-shaped, margins toothed, tips rounded, the stalks up to 20 cm long; stem leaves alternate, lower similar to basal, the upper transitional to the unstalked, 3- to 5-parted bracts.

Flowers: Inflorescence a few-flowered cyme, terminal on stem and branches; flower stalks to 15 cm long; receptacle hairy; petals 5, distinct, yellow, broadly egg-shaped, 9-13 mm long, 8-11 mm wide, nectary on upper surface, the nectary scale smooth, egg-shaped, tip rounded, about 1.5 mm long; sepals 5, bent back, early deciduous, greenish, 6-9 mm long, 2-4 mm wide, hairy, tips pointed; stamens 40-80; pistils 15-40.

Fruits: Achenes, 15 to 40 in an egg-shaped head 6-9 mm long, 5-7 mm wide, the achenes egg-shaped, 2.2-3.2 mm long, 2.2-2.8 mm wide, smooth, margins prominent, keeled; beaks persistent, stout, flattened, 0.2-0.8 mm long, tip curved.

***Ranunculus californicus* Benth.**

California buttercup

HABITAT/RANGE:

Mesic to dry, grassy coastal bluffs and meadows; rare on extreme SE Vancouver Island and adjacent islands; S to CA.

DESCRIPTION:

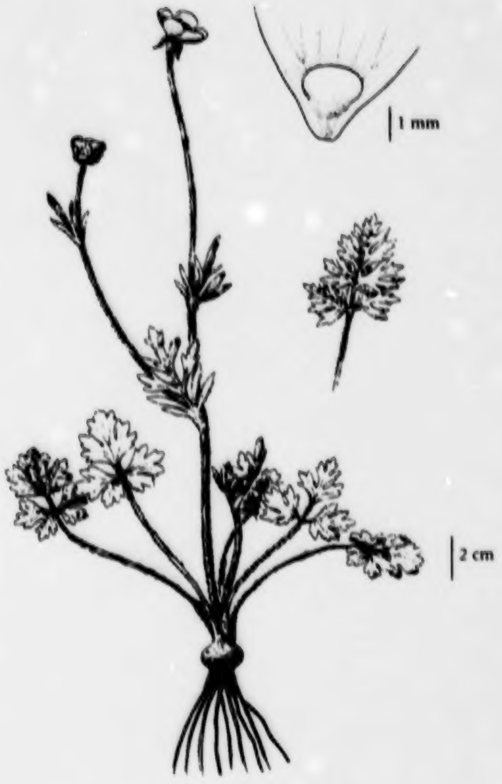
General: Perennial, or occasionally annual, herb from slender, fibrous root mass; stems several, ascending to prostrate, but not rooting at nodes, 20-60 cm tall/long, stiff- or soft-hairy or smooth, somewhat hollow.

Leaves: Extremely variable, egg- to heart-shaped, 3-lobed or -parted to pinnate, 2-6 cm long, 2-7.5 cm wide, the leaflets undivided or 1- or 2-times lobed or parted, the ultimate segments linear to circular, margins toothed or entire, smooth or hairy, the stalks 3-20 cm long; stem leaves alternate, shorter-stalked, transitional to the upper linear to oblong bracts.

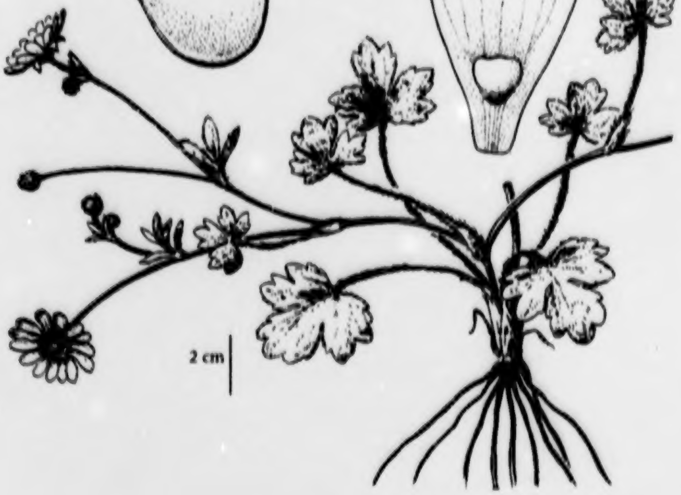
Flowers: Inflorescence a few- to many-flowered cyme; flower stalks to 15 cm long; receptacle usually smooth; petals 9 to 17, distinct, yellow, oblong to oblanceolate, 7-14 mm long, 2-6 mm wide, nectary on upper surface, the nectary scale smooth, about 0.7 mm long; sepals 5, bent back about 2-3 mm from base, often early deciduous, greenish or reddish-tinged, 4-8 mm long, 2-4 mm wide, soft-hairy; stamens 40-80; pistils 15-40.

Fruits: Achenes, 15 to 40 in a globe-shaped head 3-7 mm long, 4-9 mm wide, the achenes broadly egg-shaped, 1.8-3.2 mm long, 1.4-3.2 mm wide, about 1/3 as thick, usually smooth, margins distinct, slightly keeled; beaks stout at base, lanceolate, curved, 0.2-0.8 mm long.

Notes: Whittemore (1997) speculated that because no collections of this species had been made in BC before 1978, this species should be treated as an introduction. In fact, our first collection was made on Trial Island in 1952. No earlier plant collections are known from Trial Island, but there is no reason to believe it is a recent arrival on the island. Many other rare native species in the Victoria area were not discovered or did not become well known until collection activities increased in the 1960's. This species forms hybrid swarms with *R. occidentalis* in our area.



Ranunculus bulbosus



Ranunculus californicus

***Ranunculus cardiophyllus* Hook.** (*R. pedatifidus* var. *cardiophyllus* [Hook.] Britt.)
heart-leaved buttercup

HABITAT/RANGE:

Moist to mesic grasslands, meadows and forest openings in the steppe, montane and subalpine zones; rare, known only from the Dawson Creek area and Crows Nest Pass; N to NT, E to SK and S to WY, UT, AZ and NE WA.

DESCRIPTION:

General: Perennial herb from fibrous root mass; stems erect, 15-40 cm tall, soft-hairy or sometimes becoming smooth, hollow.

Leaves: Basal leaves generally elongate heart-shaped, generally undivided, or innermost 3- to 5-parted, 2-7 cm long, 2-4.5 cm wide, deeply toothed to shallowly lobed and narrowly toothed, soft-hairy, tips rounded to pointed, the stalks stout, 2-12 cm long; stem leaves alternate, shorter-stalked, more deeply lobed, transitional to the unstalked, 5- to 7-parted bracts.

Flowers: Inflorescence a 1- to 5-flowered cyme; flower stalks to 14 cm long, soft-hairy; receptacle densely short-hairy; petals (0) 5-10, distinct, yellow, 6-13 mm long, 4-13 mm wide, nectary on upper surface, about 1 mm long, the upper edge of scale fringed with long hairs; sepals 5, spreading, yellowish, 5-8 mm long, 3-7 mm wide, soft-hairy; stamens 35-70; pistils 20-100.

Fruits: Achenes, 20 to 100 in a globe- to egg-shaped head 5-16 mm long, 5-9 mm wide, the achenes egg-shaped, 1.8-2.2 mm long, 1.5-2 mm wide, somewhat flattened, finely and densely short-hairy, often netted; beaks slender, curved or straight, 0.6-1.2 mm long.

***Ranunculus cooleyae* Vasey & Rose *ex* Rose** (*Kumlienis cooleyae* [Vasey & Rose *ex* Rose] Greene)
Cooley's buttercup

HABITAT/RANGE:

Wet to moist snowbeds, streambanks, ledges, gullies, scree slopes and heath in the subalpine and alpine zones; common in NW BC (including the Queen Charlotte Islands), infrequent in SW BC, rare east of Coast Mountains; N to AK and S to WA.

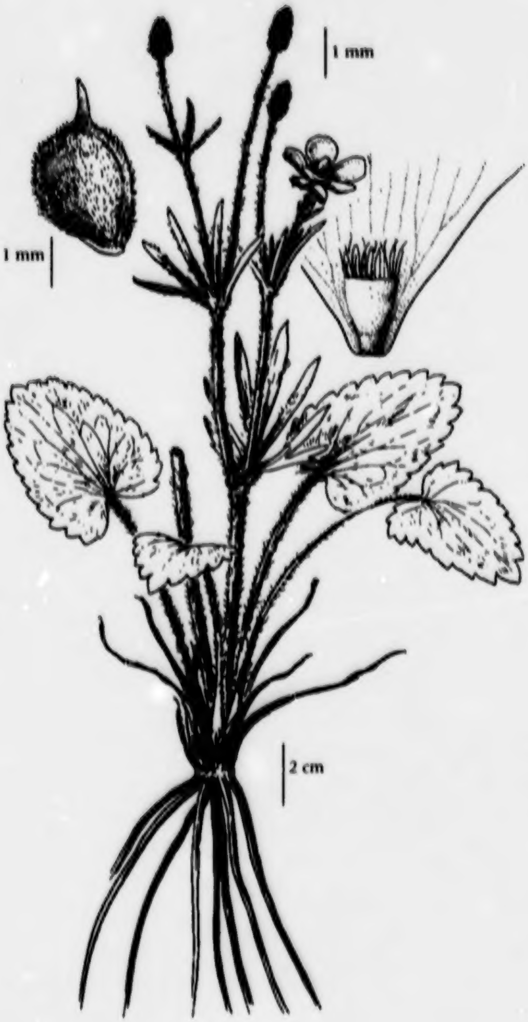
DESCRIPTION:

General: Perennial herb from fibrous-rooted stem-base; stems erect, 2-14 cm tall in flower, to 23 cm in fruit, smooth.

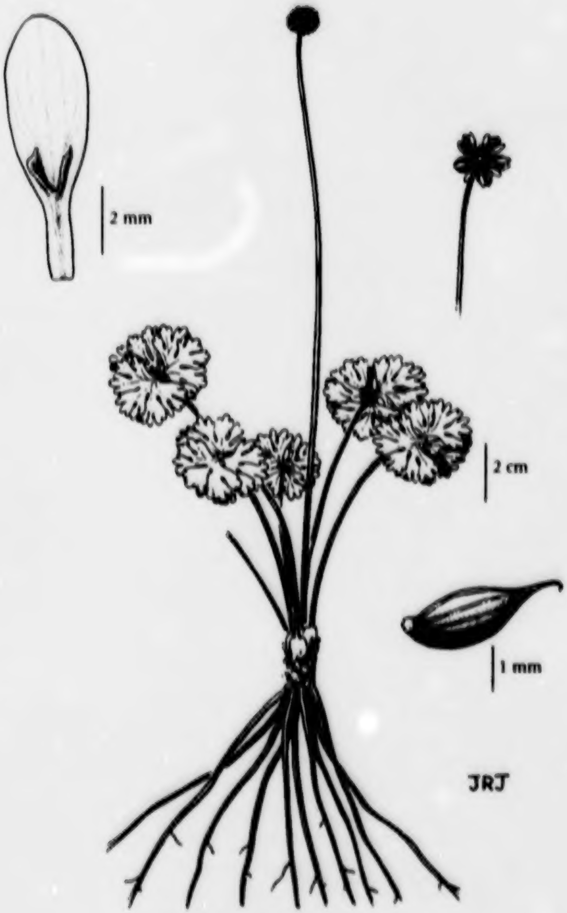
Leaves: All basal, circular to kidney-shaped, deeply palmately 3- to 5-lobed, the edges overlapping somewhat, 1-4 cm long, 1.5-7 cm wide, the lobes again lobed, the ultimate segments elliptic or oblong, margins toothed, tips rounded and bearing minute projecting vein tips, the stalks to 15 cm long; stem leaves none to 2, scale-like.

Flowers: Inflorescence a solitary terminal flower; flower stalks to 14 cm long; receptacle smooth; petals 11 to 15, distinct, yellow, oblanceolate to spoon-shaped, 8-12 mm long, 3-5 mm wide, long-clawed, nectary on upper surface, the nectary scale divided and V-shaped; sepals 5, spreading, persistent, greenish-yellow, 7-11 mm long, 4-7 mm wide, smooth; stamens (50) 75-125; pistils (30) 70-100.

Fruits: Achenes, numerous in a globe-shaped head 7-8 mm long, 9-10 mm wide, the achenes elliptic, 2.4-4.6 mm long, 1.2-2.2 mm wide, smooth, membranous, margins and faces strongly veined; beaks persistent, thread-like, 1-1.8 mm long, hooked at tip.



Ranunculus cardiophyllus


2 mm
2 cm
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JRJ

Ranunculus cooleyae

***Ranunculus cymbalaria* Pursh** (*R. cymbalaria* var. *saximontanus* Fern.)

shore buttercup

HABITAT/RANGE:

Moist to wet saline or alkaline shorelines, tideflats, ditches, muddy clearings, marshes and meadows in the lowland, montane and steppe zones; common in S BC, less frequent northward; circumpolar, N to AK, YT and NT, E to NF and S to NJ, IL, AR, TX and MX; Eurasia.

DESCRIPTION:

General: Perennial, stoloniferous herb from fibrous roots; stems of two types, flowering stems erect or ascending and 5-30 cm tall, one or more other stems (stolons) decumbent to prostrate, rooting at nodes, and 10-40 cm long, smooth or sparsely soft-hairy.

Leaves: Basal leaves simple, undivided, oblong to heart-shaped or circular, 0.7-3.8 cm long, 0.8-3.2 cm wide, shallowly to deeply round-toothed, tips rounded, the stalks 1- to 5-times the length of blade; stem leaves alternate, few, much reduced.

Flowers: Inflorescence a 1- to 5-flowered cyme; flower stalks 2-6 cm long, the bracts scale-like; receptacle smooth or stiff-hairy; petals usually 5, distinct, yellow, oblanceolate to spoon-shaped, 2-7 mm long, 1-3 mm wide, nectary on upper surface, the nectary scale smooth, 0.4 mm long; sepals 5, spreading, early deciduous, greenish-yellow, 2.5-6 mm long, 1.5-3 mm wide, smooth; stamens 15-30; pistils 50-200.

Fruits: Achenes, numerous in a cylindric or long, egg-shaped head 6-12 mm long, 4-5 mm wide, the achenes egg-shaped, 1-1.4 mm long, 0.8-1.2 mm wide, smooth, membranous, margins and faces strongly veined; beaks persistent, stout, 0.1-0.2 mm long, straight.

Notes: Larger plants are sometimes recognized as var. *saximontanus* but these extremes intergrade completely and hardly appear justified.

***Ranunculus eschscholtzii* Schlecht.** (*R. eschscholtzii* var. *suksdorfii auct. non* [A. Gray] Benson; *R. eximius* Greene, *R. suksdorfii auct. non* A. Gray)

subalpine buttercup

HABITAT/RANGE:

Moist meadows, heath, streambanks, shores, scree and talus slopes, and forest openings from the upper montane to alpine zones; common in S BC, less frequent northward; N to AK, YT and NT, E to SW AB and S to CO, UT, AZ, NM and CA.

DESCRIPTION:

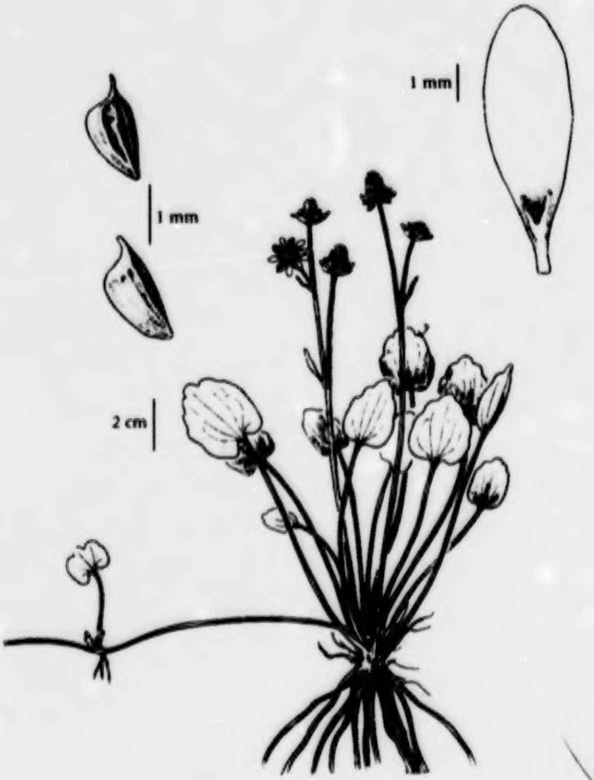
General: Perennial herb from a compact, erect stem base, covered with withered leaf bases, with a cluster of fibrous roots; stems 1 to several, erect, 5-25 cm tall, usually smooth, not hollow.

Leaves: Basal leaves persistent, kidney- or heart- or egg-shaped to broadly oblong, usually 3-parted, sometimes 3-lobed, the blades 0.5-4 cm long, 0.8-3.7 cm wide, the central segment 3-lobed to entire, the lateral segments 3- to 4-lobed, tips usually rounded, the stalks 1-8 cm long; stem leaves usually absent, sometimes 1 or 2, alternate, shorter-stalked, transitional to the unstalked, 3-lobed to -parted bracts; leaves usually smooth except fringed on margins.

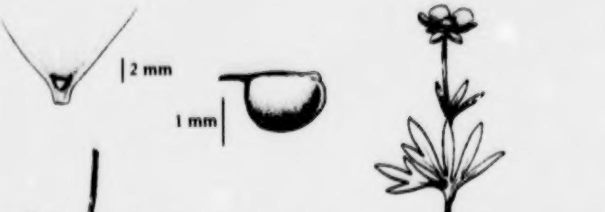
Flowers: Inflorescence a 1- to 3-flowered cyme; flower stalks stout, 2-12 cm long, smooth; receptacle smooth or sparsely soft-hairy; petals 5 to 8, distinct, yellow, broadly egg-shaped, 6-16 mm long, 4-16 mm wide, nectary on upper surface, the scale about 0.5 mm long, smooth; sepals 5, spreading, early deciduous, usually purplish-tinged, 4-8 mm long, 2-6 mm wide, usually yellow wavy-hairy; stamens (20) 40-125; pistils (20) 30-80.

Fruits: Achenes, numerous in a cylindric to egg-shaped head 5-10 mm long, 4-7 mm wide, the achenes egg-shaped, 1.4-2 mm long, 1-1.6 mm wide, smooth or sparsely hairy, margins evident; beaks persistent, slender, 0.6-1.8 mm long, straight or somewhat curved.

Notes: This highly variable species has sometimes been separated into either three taxa at the specific or varietal level (Brayshaw 1989, Whittemore 1997) or two taxa at the varietal level (Hitchcock *et al.* 1964, Douglas *et al.* 1991) in BC. Because large populations of plants, especially in SE BC, sometimes have plants with somewhat pointed leaves as well as the more common roundish leaf tips, some botanists have recognized them as either *R. eximius* or *R. suksdorfii*. During a study of *R. suksdorfii* in W North America, Fisher *et al.* (1979) were unable to locate the latter species in BC and reidentified BC *R. suksdorfii* material to *R. eschscholtzii*. We prefer to treat this complex, at least in BC, as one variable species.



Ranunculus cymbalaria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JRJ

Ranunculus eschscholtzii

***Ranunculus ficaria* L.**

lesser celandine

HABITAT/RANGE:

Mesic to moist, often shaded waste places in the lowland zone; rare in SW BC, known from Saanich and Vancouver; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from club-shaped tubers and fibrous roots; stems 1 to several, soft, decumbent and rooting at nodes, or ascending to erect, sometimes producing axillary bulblets, smooth.

Leaves: Basal leaves simple, undivided, kidney- or heart-shaped to triangular, 1.8-3.7 cm long, 2-4 cm wide, round-toothed or entire, bases broadly heart-based, tips rounded or blunt, long-stalked, the stalks with dilated, sheathing bases; stem leaves similar, alternate, short-stalked, the upper sometimes nearly opposite.

Flowers: Inflorescence of solitary, terminal flowers on each major branch, the flowers 2-3 cm wide; long-stalked; receptacle smooth; petals 8 to 12, distinct, bright yellow, fading whitish, 10-15 mm long, 3-7 mm wide, nectary on upper surface, the scale smooth, 2-toothed; sepals 3, spreading, early deciduous, green, 4-9 mm long, 3-6 mm wide, smooth, sac-shaped at base; stamens 15-30; pistils 15-30.

Fruits: Achenes, several to many in a globe-shaped head 4-5 mm long, 6-8 mm wide, the achenes ellipsoid, 2.6-2.8 mm long, 1.8-2 mm wide, hairy; beaks absent.

***Ranunculus flabellaris* Raf.**

yellow water-buttercup; yellow water-crowfoot

HABITAT/RANGE:

Ponds and shorelines in the steppe, montane and subalpine zones; infrequent and scattered in S BC east of the Coast-Cascade Mountains; E to PQ and NB and S to KS, NC, LA, UT, NV and N CA.

DESCRIPTION:

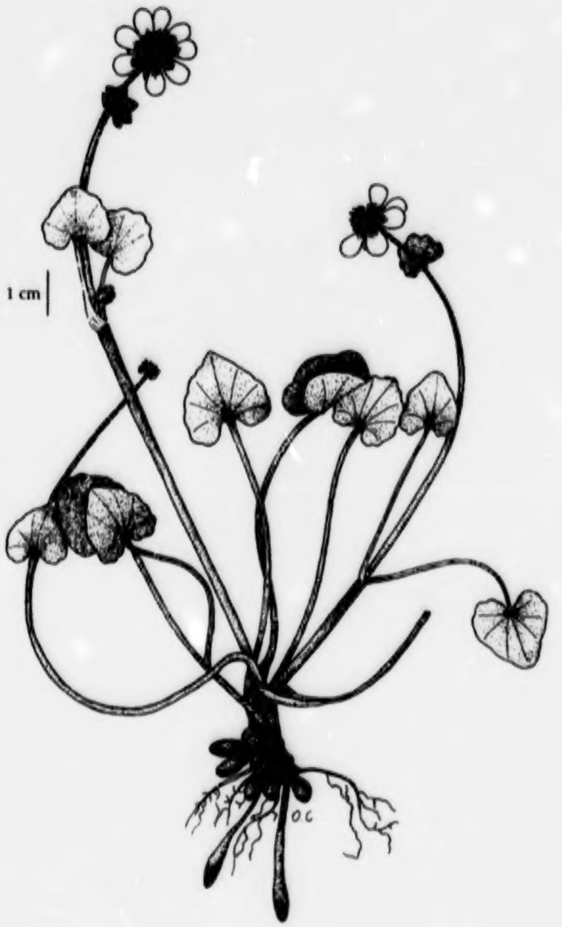
General: Aquatic to amphibious, perennial herb, rooting from nodes of lower stems, roots fibrous, slender; stems coarse, freely-branched, floating or creeping, smooth, hollow.

Leaves: Basal leaves rarely present; submerged stem leaves alternate, semicircular to kidney-shaped, 1-7 cm long, 2-11 cm wide, 1- to 6-times parted, lobed, or dissected, the segments entire or round-toothed, tips rounded to thread-like; floating stem leaves absent or unlike submerged, 3-lobed, lobes linear to oblong; stalks 0.5-4 cm long.

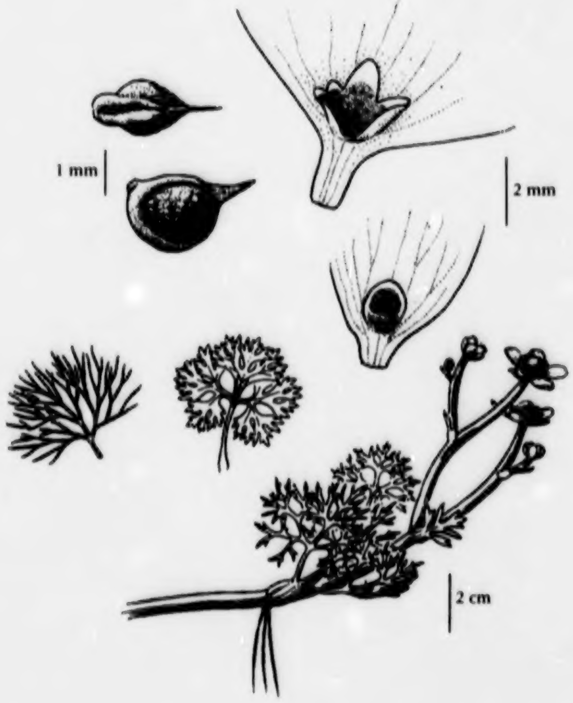
Flowers: Inflorescence of 1- to few-flowered terminal and axillary cymes, on stout stalks to 10 cm long; receptacle sparsely stiff-hairy; petals 5-6, distinct, yellow, 7-12 mm long, 5-9 mm wide, nectary on upper surface, the nectary scale variable, 1.5 mm long; sepals 5, spreading or weakly bent back, early deciduous, 5-7 mm long, 3-6 mm wide, smooth; stamens 30-70; pistils 30-70.

Fruits: Achenes, numerous in an egg-shaped head 8-10 mm long, 7-8 mm wide, the achenes egg-shaped, flattened, 1.8-2.2 mm long, 1.6-2.2 mm wide, smooth; beaks persistent, lanceolate, flattened, straight or somewhat curved at tip, 1-1.8 mm long.

Notes: This species is closely related to *R. gmelinii*.



Ranunculus ficaria



Ranunculus flabellaris

Ranunculus flammula **L.** (*R. filiformis* Michx., *R. flammula* var. *ovalis* [Bigel.] Benson, *R. reptans* L.)

lesser spearwort

HABITAT/RANGE:

Shorelines, wet meadows, marshes and ditches in the lowland, steppe and montane zones; common throughout BC; circumpolar, N to AK, YT and NT, E to NF and S to MN, CO and CA; Greenland, Eurasia.

DESCRIPTION:

General: Amphibious perennial herb, usually with stolons and rooting from nodes, roots slender, fibrous; stems decumbent to prostrate, creeping, to 50 cm long, simple to few branched, smooth or sparsely stiff short-hairy, somewhat hollow.

Leaves: Tufted at nodes, simple, lanceolate or oblanceolate to thread-like, 0.7-6.5 cm long, 0.4-10 mm wide, usually entire, sometimes shallowly-toothed, bases and tips pointed to thread-like; long- to short-stalked.

Flowers: Inflorescence of solitary, terminal flowers or few-flowered cymes near branch tips, on stalks to 10 cm long; bracts lanceolate or oblanceolate, receptacle smooth; petals 5 or 6, distinct, yellow, 2.5-7 mm long, 1-4 mm wide, egg-shaped, nectary on upper surface, the nectary scale smooth, shallowly cup-shaped, wider than long; sepals 5, spreading or weakly bent back, 1.5-4 mm long, 1-2 mm wide, smooth or appressed stiff-hairy; stamens 10-50; pistils 5-50.

Fruits: Achenes, several to many in a globe-shaped head 2-4 mm long, 3-4 mm wide, the achenes egg-shaped, 1.2-1.6 mm long, 1-1.4 mm wide, smooth, smooth to net-veined; beaks persistent, lanceolate to linear, straight or curved, 0.1-0.6 mm long.

Notes: Separation of this species into infraspecific taxa, based mainly on leaf width and flower size, is arbitrary at best. See Calder and Taylor (1968) and Whittemore (1997) for alternative treatments.

Ranunculus gelidus **Kar. & Kir.** (*R. verecundus* B.L. Robins. *ex* Piper, *R. grayii* Britt.)

Arctic buttercup

HABITAT/RANGE:

Moist meadows, gravelly seepage sites, scree and talus slopes in the alpine zone; infrequent, scattered from NW to SE BC; N to AK, YT and NT, E to SW AB and S to CO.

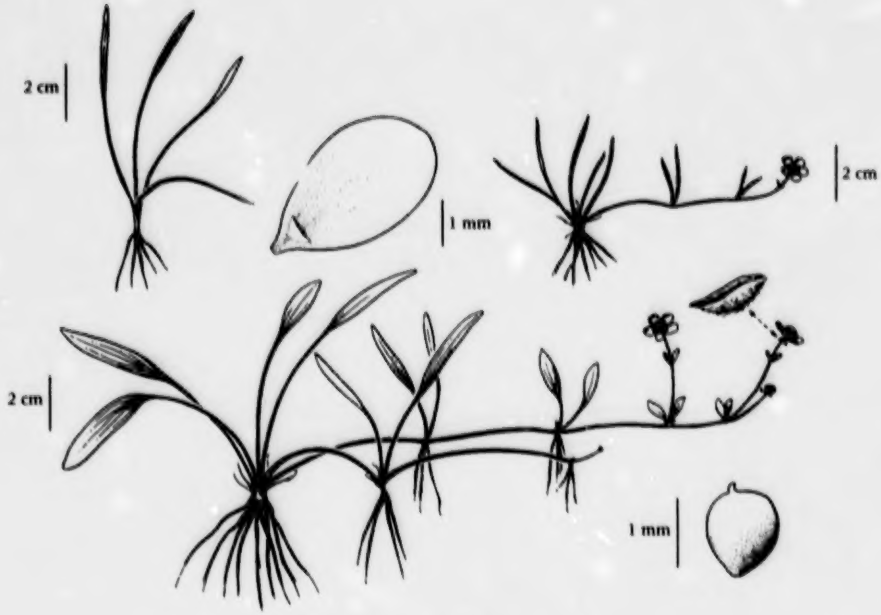
DESCRIPTION:

General: Perennial herb from short, thickened stem base with slender, fibrous roots; stems erect or ascending to decumbent, 3-15 cm tall, smooth below, minutely-hairy above, not hollow.

Leaves: Basal persistent, heart- or kidney-shaped, deeply to shallowly 3-parted, the blades 0.5-2 cm long, 0.8-3 cm wide, the segments 3- to 5-lobed, bases blunt or heart-shaped, tips pointed, the stalks long, slender; stem leaves similar to basal, short-stalked.

Flowers: Inflorescence of 1- to 3-flowered, terminal cymes, on hairy stalks to 6 cm long; receptacle smooth or hairy; petals 5, distinct, yellow, 3-6 mm long, 1-5 mm wide, egg-shaped, nectary on upper surface, the nectary scale smooth, almost 0.5 mm long; sepals 5, early deciduous, spreading or bent back, 3-5 mm long, 1-4 mm wide, usually hairy; stamens 20-50; pistils 20-80.

Fruits: Grouped in a cylindric to egg-shaped head 4-13 mm long, 4-6 mm wide, the achenes egg-shaped, 1-2.5 mm long, 0.8-2 mm wide, smooth; beaks persistent, awl-shaped, curved or hooked, 0.4-0.8 mm long.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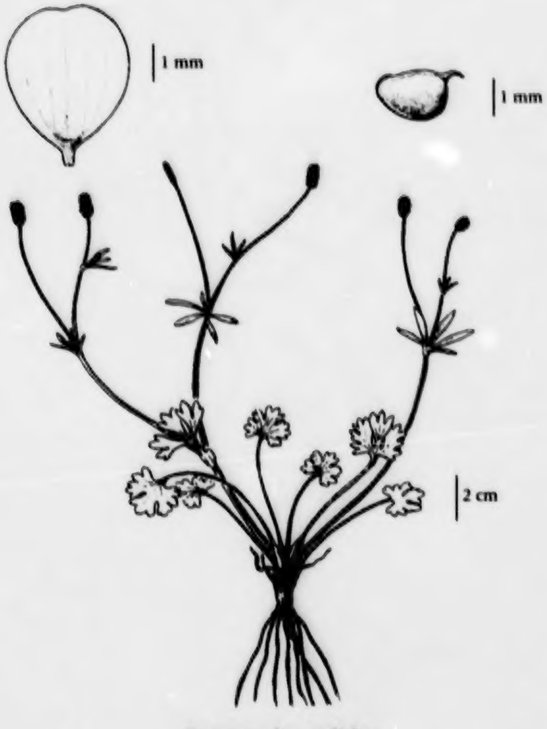
Ranunculus flammula



Ranunculus gelidus

Ranunculus glaberrimus **Hook.** (*R. ellipticus* Greene and *R. glaberrimus* var. *buddii* Boivin = var. *ellipticus*)
sagebrush buttercup

HABITAT/RANGE:

Mesic to dry grasslands, shrublands, sandy flats, rocky slopes and open forests in the steppe and montane zones; common in S BC east of the Coast-Cascade Mountains, infrequent northward; E to SK and S to NB, ND, NM, AZ and CA.

DESCRIPTION:

General: Perennial herb from cluster of fleshy roots, the roots 1-3 mm wide; stems prostrate to ascending, simple or branched above, 4-15 cm tall/long, smooth, not hollow.

Leaves: Mostly basal, persistent, kidney- or egg-shaped, to narrowly elliptic, 0.7-5.2 cm long, 1-2 cm wide, margins entire or shallowly 3-lobed at tip, tips rounded to pointed, bases blunt to narrowed, the stalks long, slender; stem leaves alternate, unstalked or nearly so, deeply 3-lobed; smooth.

Flowers: Inflorescence of 1- to 4-flowered, terminal cymes, on stalks to 10 cm long; receptacle smooth; petals 5-10 or more, distinct, yellow, 8-13 mm long, 5-12 mm wide, egg-shaped, nectary on upper surface, the nectary scale smooth or fringed with hairs, 1.5-2 mm long; sepals 5, early deciduous, spreading to bent back, 5-8 mm long, 3-7 mm wide, smooth above or sparsely hairy; stamens 40-80; pistils 30-150.

Fruits: Achenes, numerous in a globe-shaped head 7-12 (20) mm long, 6-11 (20) mm wide, the achenes egg-shaped, plump, slightly winged, 1.4-2.2 mm long, 1.1-1.8 mm wide, usually minutely-hairy; beaks persistent, lanceolate- to awl-shaped, straight or curved, 0.4-1 mm long.

Notes: Two sympatric and intergrading varieties occur in BC:

1. Basal leaf blades egg-shaped, usually shallowly lobed; stem leaves usually entire .... var. *glaberrimus*

1. Basal leaf blades oblanceolate to elliptic, usually entire; stem leaves entire to 3-lobed .... var. *ellipticus* Greene

Ranunculus gmelinii **DC.** (*R. gmelinii* var. *hookeri* [G. Don] Benson, *R. gmelinii* var. *limosus* [Nutt.] Benson)
small yellow water-buttercup

HABITAT/RANGE:

Ponds, shallow streams, shores and wet mud flats, ditches and drained beaver ponds in the lowland, steppe and montane zones; common throughout BC except rare along the coast; amphiberingian, N to AK, YT and NT, E to NF and S to MA, IA, MI, SD, UT, NM, NV and OR; E Asia.

DESCRIPTION:

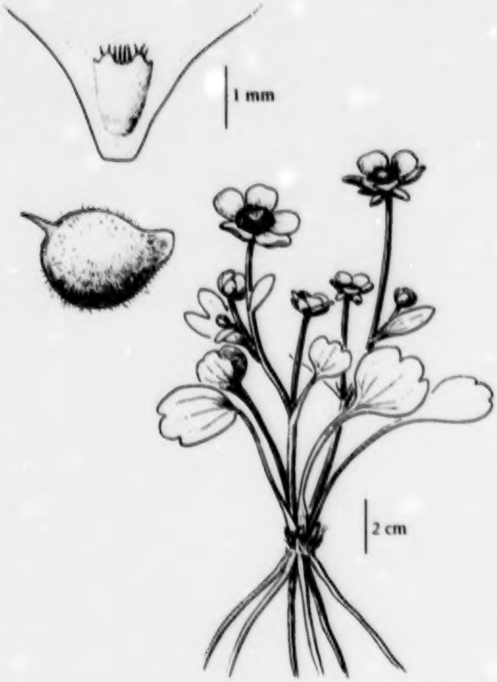
General: Aquatic or amphibious, perennial herb, rooting from nodes of lower stems, roots slender, fibrous; stems slender, simple to branched, floating or trailing, to 50 cm long, smooth or hairy, hollow.

Leaves: Basal leaves absent; stem leaves alternate, kidney-shaped to circular, 3-lobed or -parted, 0.6-6.5 cm long, 1-9 cm wide, bases heart-shaped, the segments 1- to 3-times lobed to dissected, entire or round-toothed, tips rounded; submerged leaves sometimes deeply dissected into linear or thread-like segments; stalks to 5 cm long.

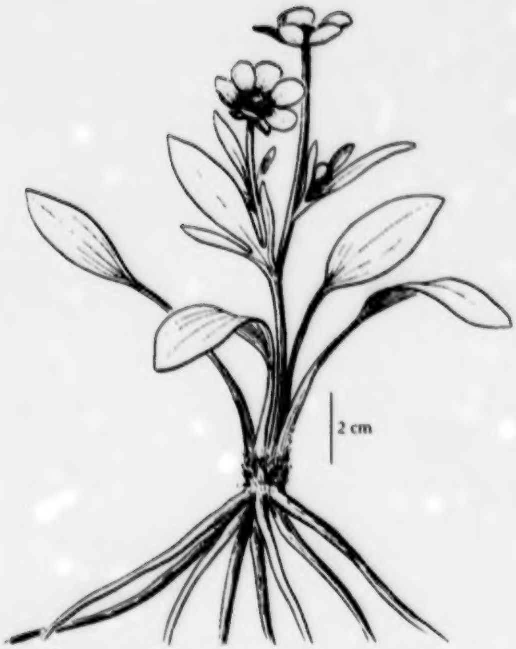
Flowers: Inflorescence of solitary flowers from leaf axils, sometimes the terminal one a few-flowered cyme, the stalks 1-5 cm long; receptacle sparsely stiff-hairy; petals 5 or more, distinct, yellow, 3-7 (10) mm long, 2-5 mm wide, egg-shaped, nectary on upper surface, the nectary scale variable; sepals 4 or 5, spreading or bent back from base, early deciduous, 2-5 mm long, 2-4 mm wide, smooth or sparsely long-hairy; stamens 10-45; pistils 20-70.

Fruits: Achenes, numerous in an egg- to globe-shaped head 3-8 mm long, 3-7 mm wide, the achenes egg-shaped, slightly flattened, 1-1.6 mm long, 1-1.2 mm wide, smooth, whitish-puffy over the lower 1/2 to 2/3 of the circumference; beaks persistent, lanceolate to thread-like, flattened, straight, 0.4-0.8 mm long.

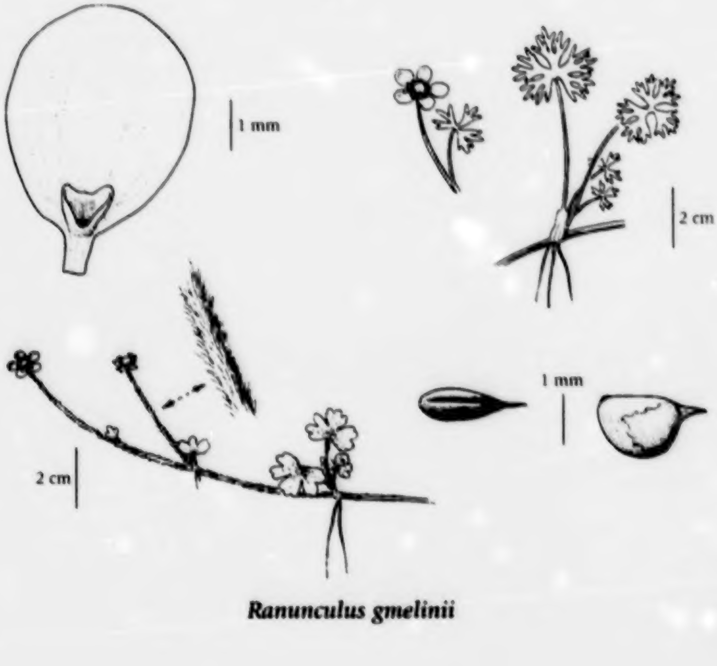
Notes: There are no reliable morphological differences for recognition of infraspecific taxa (Scott 1974). This species is closely related to *R. flabellaris*.



Ranunculus glaberrimus var. *glaberrimus*



Ranunculus glaberrimus var. *ellipticus*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Ranunculus gmelinii

***Ranunculus hyperboreus* Rottb.** (*R. hyperboreus* var. *turquetilianus* Polunin, *R. natans* C.A. Mey. var. *intertextus* [Greene] Benson)

far-northern buttercup

HABITAT/RANGE:

Ponds, muddy shores, and mossy seepage sites in thickets and forests in the montane zone; frequent in N BC, rare southward to 53°N, circumpolar, N to AK, YT and NT, E to Labr. and PQ and S to CO; Greenland, Iceland, N Eurasia.

DESCRIPTION:

General: Aquatic or amphibious, perennial herb, rooting from nodes, roots slender, fibrous; stems slender, floating or trailing, smooth.

Leaves: Basal leaves absent; stem leaves kidney-shaped to broadly fan-shaped, deeply 3-lobed or 3-parted, 0.3-1.2 cm long, 0.5-2 cm wide, bases blunt to heart-shaped, the lobes undivided or the lateral cleft, the terminal segment entire or with small round teeth near tip, tips rounded; long-stalked; smooth.

Flowers: Inflorescence of solitary terminal and axillary flowers, long-stalked; receptacle smooth; petals 3 or 4, distinct, yellow, 2-4 mm long, 1-3 mm wide, egg-shaped, nectary on upper surface, the nectary scale partially covering nectary; sepals 3 or 4, spreading or bent back from base, 2-4 mm long, 1-3 mm wide, smooth; stamens 10-20; pistils 10-70.

Fruits: Achenes, several in a globe- to short egg-shaped head 3-5 mm long, 2-5 mm wide, the achenes egg-shaped, slightly flattened, 1-1.4 mm long, 0.8-1.2 mm wide, smooth; beaks persistent, curved, 0.1-0.4 mm long.

Ranunculus inamoenus* Greene var. *inamoenus

unlovely buttercup

HABITAT/RANGE:

Moist to mesic meadows and rocky slopes in the subalpine and alpine zones; infrequent E of the Coast-Cascade Mountains, E to MB and S to NE, CO, UT, AZ, ID and WA.

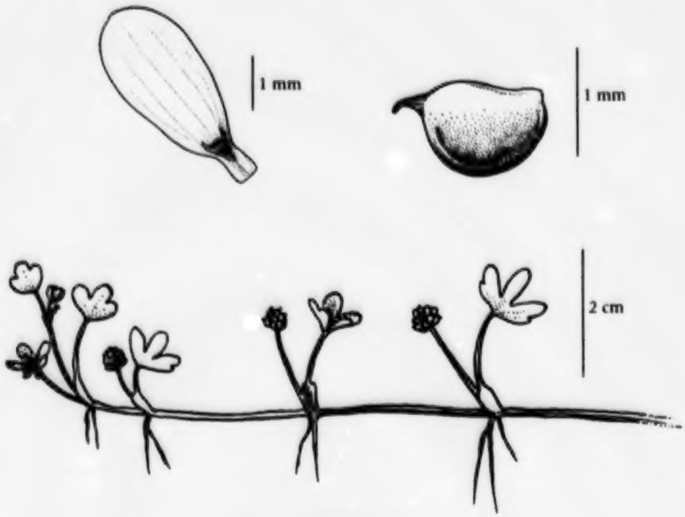
DESCRIPTION:

General: Perennial herb from slender, fibrous roots; stems 1 to several, erect, 5-25 cm tall, hairy above or smooth, hollow.

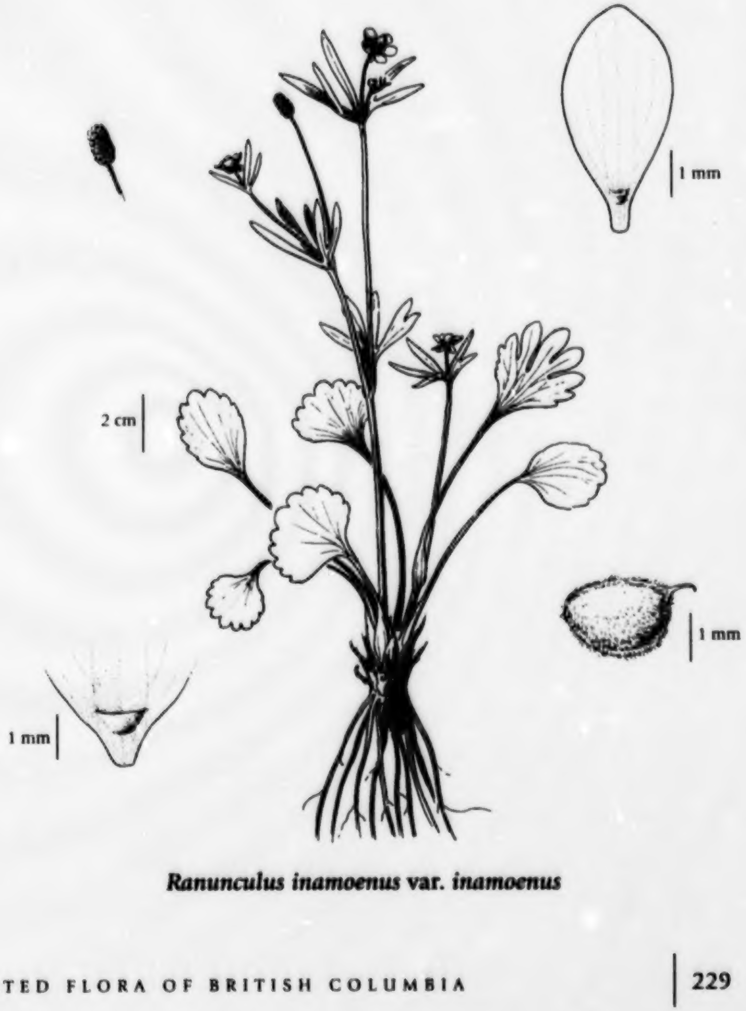
Leaves: Basal leaves persistent, thick, egg-shaped to nearly circular, rarely kidney-shaped, undivided to shallowly 3- (5-) lobed, 1-4 cm long, 1-3.5 cm wide, shallowly toothed, tips rounded, bases wedge-shaped to rounded, the stalks 2- to 5-times length of blade; stem leaves thin, alternate, unstalked, divided nearly to base into 3 to 5 (7) linear to oblanceolate segments 2-4 cm long, often absent.

Flowers: Inflorescence a 3- to 7-flowered cyme; flower stalks 1-7 cm long, appressed-hairy; receptacle soft-hairy or smooth; petals 5, distinct, yellow, 4-9 mm long, 2-5 mm wide, oblanceolate to narrowly egg-shaped, nectary on upper surface, the scale about 1 mm long, smooth; sepals 5, spreading to bent back, persistent, 3-5 mm long, 2-3 mm wide, soft-hairy above; stamens 25-50; pistils 40-100.

Fruits: Achenes, numerous in a cylindric head 7-17 mm long, 5-8 mm wide, the achenes egg-shaped, 1.5-2 mm long, 1.3-1.8 mm wide, white fine-hairy to smooth, margins evident; beaks persistent, awl-shaped, 0.4-2 mm long, straight or hooked.



Ranunculus hyperboreus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Ranunculus inamoenus* var. *inamoenus

Ranunculus lapponicus **L.**

Lapland buttercup

HABITAT/RANGE:

Moist to wet bogs, swamps and forests in the montane zone; common E of the Coast-Cascade Mountains N of 53°N; circumpolar, N to AK, YT and NT, E to Greenland and S to ME, MN and MI; N Eurasia.

DESCRIPTION:

General: Perennial creeping herb, the stems prostrate, buried, slender, rooting at nodes, smooth; flowering shoots 2-15 cm tall.

Leaves: Appearing to be mostly basal, persistent, kidney-shaped, 3-parted, 1-3 cm long, 1.5-4.5 cm wide, the segments round-toothed or shallowly lobed, tips rounded; long-stalked.

Flowers: Inflorescence of solitary, axillary flowers, the flower stalks naked, rarely leafy; receptacle smooth; petals 5-8, distinct, yellow, 5-6 mm long, 2-3 mm wide, oblanceolate to spoon-shaped, clawed, nectary on upper surface, the scale smooth; sepals 3, spreading to bent back, soon deciduous, 4-7 mm long, 2-5 mm wide, smooth; stamens 10-12; pistils 6-20.

Fruits: Grouped in a hemispheric head 5-7 mm long, 8-10 mm wide, the achenes egg-shaped, 3.8-4.2 mm long, 2-2.2 mm wide, smooth; beaks persistent, lanceolate, 1.6-2.4 mm long, curved, tips hooked.

Notes: At first glance this species could be mistaken for *Anemone richardsonii*.

Ranunculus macounii **Britt.** (*R. macounii* Britt. var. *oreganus* A. Gray)

Macoun's buttercup

HABITAT/RANGE:

Wet to moist meadows, shores, ditches, streambanks, thickets and forest openings in the lowland, steppe and montane zones; common throughout BC except rare near the coast; N to AK, YT and NT, E to NF and S to MI, MN, NE, NM, AZ, NV and N CA.

DESCRIPTION:

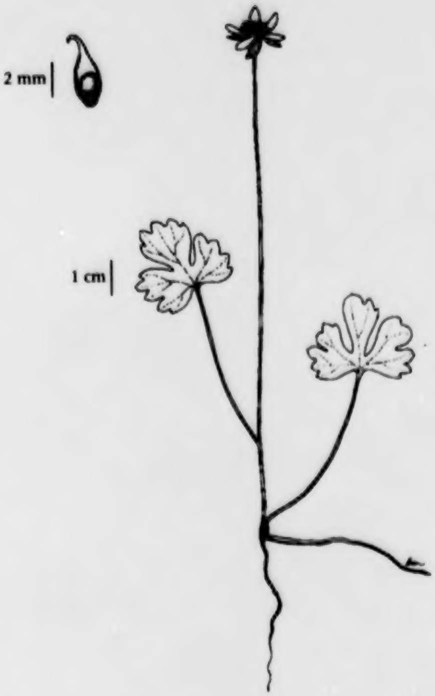
General: Perennial (or annual) herb from thick and somewhat fleshy root mass; stems from nearly erect to prostrate, often rooting at nodes, 20-90 cm long, long-hairy or smooth, hollow.

Leaves: Basal, persistent, heart- to kidney-shaped, 3-parted, the blades 3.5-8 cm long, 4.5-9.5 cm wide, the leaflets 3-lobed or -parted, the ultimate segments elliptic or lance-elliptic, toothed or shallowly lobed, tips pointed, the leaf stalks to 30 cm long, the stalks of lateral leaflets 3-10 mm long; stem leaves 1 or 2 and transitional to much-reduced bracts.

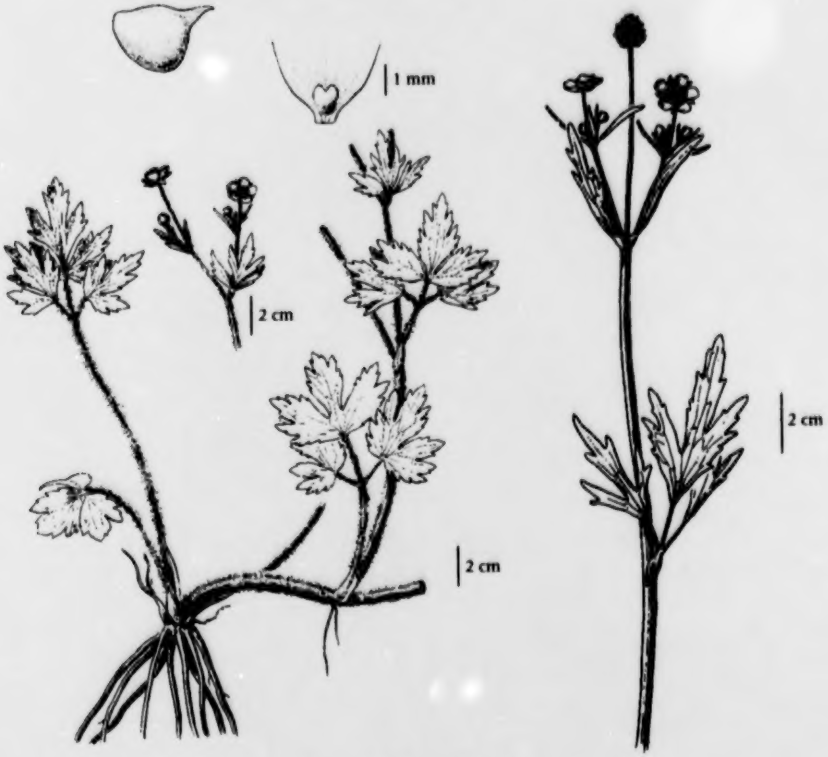
Flowers: Inflorescence of few-flowered, terminal cymes, the flower stalks to 6 cm long; receptacle long-hairy; petals 5, distinct, yellow, 4-6 mm long, 3.5-5 mm wide, egg-shaped, nectary on upper surface, the scale about 0.5 mm long, smooth; sepals 5, spreading or bent back about 1 mm above base, soon deciduous, 4-6 mm long, 1.5-3 mm wide, smooth or long-hairy; stamens 20-40; pistils 20-60.

Fruits: Achenes, numerous in a globe- to egg-shaped head 7-11 mm long, 7-10 mm wide, the achenes elliptic to egg-shaped, 2.4-3 mm long, 2-2.4 mm wide, smooth, margins slightly keeled; beaks persistent, lanceolate, 1-1.2 mm long, straight or nearly so.

Notes: The smooth to nearly smooth form (var. *oreganus*) has been collected on occasion in BC but does not warrant formal recognition.



Ranunculus lapponicus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Ranunculus macounii

***Ranunculus nivalis* L.**

snow buttercup

HABITAT/RANGE:

Moist to wet streambanks, seepage sites, meadows, snowbeds and scree slopes in the subalpine and alpine zones; frequent in BC N of 55°N and E of the Coast Mountains; circumboreal, N to AK, YT and NT and E to Labr. and Greenland; Eurasia.

DESCRIPTION:

General: Perennial herb from short rhizomes with clusters of fibrous roots, with a stem base wrapped in brown, old leaf sheaths; stems stout, soft and fleshy, erect, 10-25 cm tall, smooth or sparsely-hairy.

Leaves: Basal leaves persistent or deciduous, kidney-shaped, 3-parted, 0.6-2 cm long, 1.3-3 cm wide, the lateral segments and sometimes also the terminal segment again lobed or toothed, margins fringed, otherwise generally smooth, tips round-pointed, bases heart-shaped to squared-off, the stalks 1-5 cm long; stem leaves 1 to 3, alternate, short-stalked to unstalked, transitional to the unstalked, deeply 3- to 5-lobed bracts.

Flowers: Inflorescence a 1- to 3-flowered terminal cyme; flower stalks brown-hairy or rarely smooth; receptacle smooth; petals 5 (6), distinct, yellow, 8-11 mm long, 7-12 mm wide, nectary on upper surface, small, the scale smooth; sepals 5, early deciduous or persistent, 6-8 mm long, 3-5 mm wide, densely brown stiff-hairy; stamens 70 or more; pistils 40-50.

Fruits: Achenes, numerous (40 to 50) in a cylindric to egg-shaped head 7-14 mm long, 5-6 mm wide, the achenes egg-shaped, 1.5-2.2 mm long, 1.2-1.6 mm wide, smooth, obscurely keeled; beaks persistent, slender, 1-2 mm long, straight.

Ranunculus occidentalis* Nutt. var. *occidentalis (*R. hexasepalus* Benson; *R. nelsonii* [DC.] Benson, *R. occidentalis* var. *brevistylis* Greene)

western buttercup

HABITAT/RANGE:

Moist to mesic meadows, grassy slopes, coastal bluffs, shores, clearings and open forests from the lowland to subalpine zones; common in coastal and northern BC, infrequent elsewhere; N to AK, YT and NT, E to AB and S to CA.

DESCRIPTION:

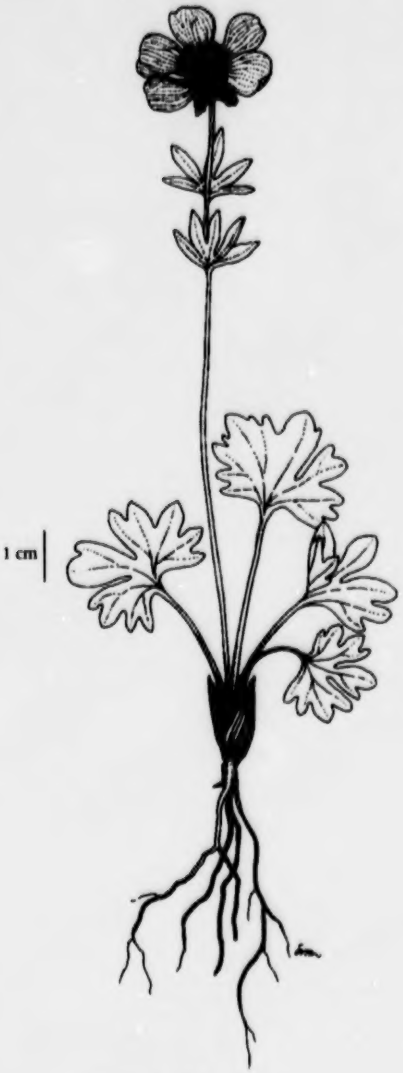
General: Perennial herb from a cluster of fibrous roots; stems 1 to several, erect or nearly so, 15-40 (60) cm tall, more or less hollow; plants variously hairy.

Leaves: Basal broadly egg-shaped or semi-circular to kidney-shaped, the blades deeply 3-lobed or -parted, 1.5-5.5 cm long, 2-8 cm wide, the segments 1- to 2-times incised, the ultimate segments oblong or elliptic to oblanceolate or lanceolate, toothed, tips pointed to rounded, the stalks long, 1 to several times the length of blade; stem leaves alternate, more deeply dissected, shorter-stalked, transitional to the 3- to 7-parted lower bracts and entire upper bracts.

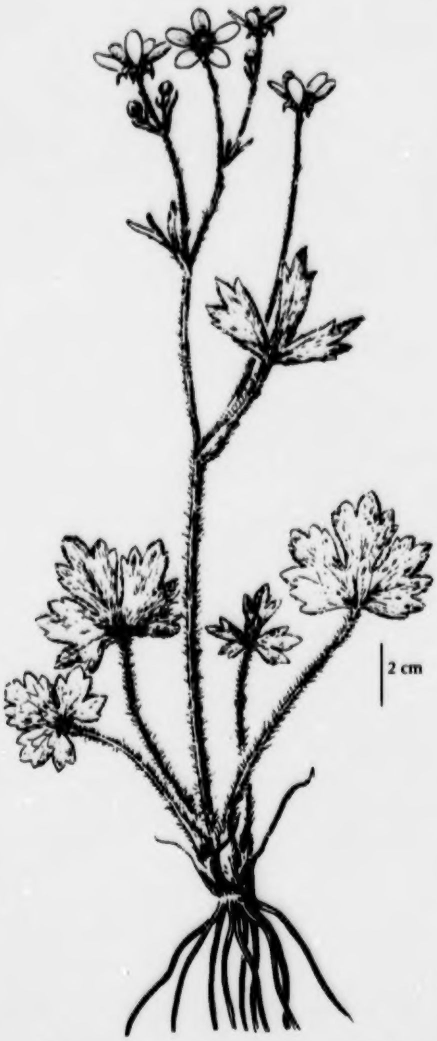
Flowers: Inflorescences few- to many-flowered cymes terminal on main stem and branches; flower stalks to 10 cm long; receptacle smooth; petals 5 (6-14), distinct, yellow, oblong to narrowly egg-shaped, 5-13 mm long, 1.5-8 mm wide, nectary on upper surface, the nectary scale smooth, almost 1 mm long; sepals 5, bent back 2-3 mm from base, early deciduous, greenish or pinkish-tinged, 4-7 mm long, 2-4 mm wide, long stiff-hairy; stamens 30-60; pistils 5-20.

Fruits: Achenes, several to many in a hemispheric head 3-7 mm long, 5-9 mm wide, the achenes egg-shaped, 2.6-3.6 mm long, 1.8-3 mm wide, smooth, rarely stiff-hairy, margins prominent, not keeled; beaks persistent, lanceolate- to awl-shaped, somewhat flattened, 0.4-2.2 mm long, straight or curved.

Notes: This highly variable species is often separated into numerous infraspecific taxa (Benson 1948, Scoggan 1978, Brayshaw 1989, Whittemore 1997). The treatment by Benson (1948) is unacceptable for our BC material (see Calder and Taylor 1968). It is also interesting to note that some authors fail to recognize varieties when annotating specimens (especially BC material) in major herbaria, even though they provide keys to varieties in their texts. This may be due to the fact that herbaria specimens are often intermediate between the recognized extremes.



Ranunculus nivalis



Ranunculus occidentalis var. *occidentalis*

Ranunculus orthorhynchus **Hook.** (*R. orthorhynchus* var. *alaschensis* Benson = var. *orthorhynchus*)

straight-beaked buttercup

HABITAT/RANGE:

Wet to moist meadows, thickets, streambanks, and tidal marshes in the lowland, steppe and montane zones; var. *orthorhynchus* – common in coastal BC, rare inland, var. *platyphyllus* – rare along the coast, more frequent inland in S BC; N to SE AK and S to WY, UT, NV and CA.

DESCRIPTION:

General: Perennial herb from mass of thick, fibrous roots, sometimes fleshy and more or less tuberous; stems usually several, decumbent to erect, 20-60 (100) cm tall/long, somewhat hollow; plants stiff-hairy to less commonly smooth.

Leaves: Basal narrowly egg-shaped to oblong or semicircular, the blades usually pinnately 3- to 5-lobed or -parted, 3-12.5 cm long, 2.5-14 cm wide, the segments or leaflets undivided or 1- to 2-times lobed or parted, the ultimate segments linear to circular, margins toothed or entire, tips rounded to narrowly pointed, the stout stalks to 25 cm long; stem leaves alternate, shorter-stalked, more deeply divided, the ultimate segments linear.

Flowers: Inflorescence a few-flowered terminal cyme; flower stalks to 15 cm long; receptacle stiff-hairy; petals 5 or 6, distinct, yellow or red on the back, yellow above, 8-18 mm long, 4-11 mm wide, nectary on upper surface, the nectary scale smooth, 0.5-1 mm long; sepals 5, bent back 1-2 mm from base, early deciduous, often purplish-tinged, 5-11 mm long, 2-4 mm wide, stiff-hairy, soft-hairy or smooth; stamens 50-70; pistils 5-50.

Fruits: Achenes, several to many in a globe- to egg-shaped head 5-13 mm long, 6-10 mm wide, the achenes broadly egg-shaped, 2.8-4.5 mm long, 1.8-3.2 mm wide, smooth, margins conspicuous and slightly keeled above; beaks persistent, narrowly lanceolate- to awl-shaped, straight, 1.8-4 (5) mm long.

Notes: Two varieties are recognized in BC:

1. Petals yellow, tinged with red or purple on the back, usually over twice as long as wide; heads of achenes hemispheric or sometimes globe-shaped, 5-7 mm long .... var. *orthorhynchus*

1. Petals yellow, not tinged with red or purple, usually less than twice as long as wide; heads of achenes globe- or egg-shaped, 8-13 mm long .... var. *platyphyllus* A. Gray

Ranunculus pedatifidus **Smith ssp. *affinis* (R. Br.) L. Benson** (*R. affinis* R. Br., *R. pedatifidus* var. *leiocarpus* [Trautv.] Fern.)

birdfoot buttercup

HABITAT/RANGE:

Moist meadows in the montane to alpine zones; rare throughout S BC in and east of the Coast-Cascade Mountains, rare in NE BC; circumpolar, N to AK, YT and NT, E to NF and S to NJ, WY, CO, NM and AZ; Eurasia.

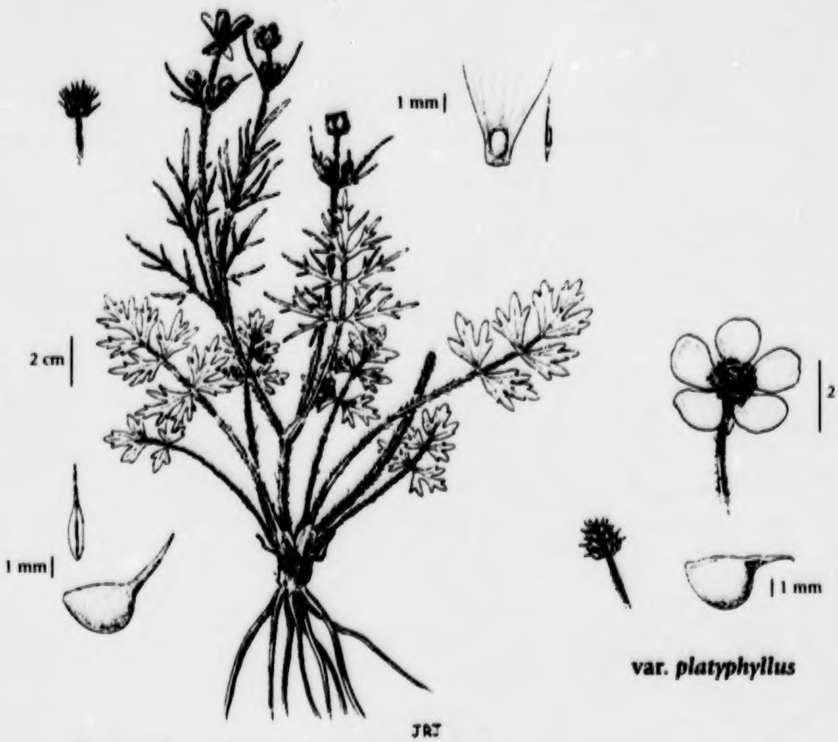
DESCRIPTION:

General: Perennial herb from slender, fibrous roots; stems 1 to several, slender, erect, 6-33 cm tall, soft-hairy or smooth, not hollow.

Leaves: Basal leaves persistent, heart- to kidney-shaped, (5) 7 (9) -parted or -lobed, 0.8-3.8 cm long, 1-4.8 cm wide, the segments undivided or lobed or parted, not toothed, bases squared-off to heart-shaped, tips pointed, the stalks 3-8 cm long; stem leaves alternate, becoming unstalked and divided into 5 to 7 linear segments to 2.5 cm long.

Flowers: Inflorescence a 1- to 7-flowered cyme; flower stalks 1-7 cm long, soft-hairy; receptacle densely white short-hairy; petals (0) 5 to 10, distinct, yellow, egg-shaped, 7-10 mm long, 5-9 mm wide, nectary on upper surface, the scale smooth; sepals 5, spreading, early deciduous, 4-6 mm long, 3-5 mm wide, soft-hairy above; stamens 25-50; pistils 25-80.

Fruits: Achenes, numerous in a cylindric head 7-15 mm long, 5-8 mm wide, the achenes round to egg-shaped, 1.8-2.4 mm long, 1.6-1.8 mm wide, white short-hairy to smooth, margins distinct, not keeled; beaks lanceolate- or awl-shaped, 0.5-1 mm long, curved, sometimes deciduous.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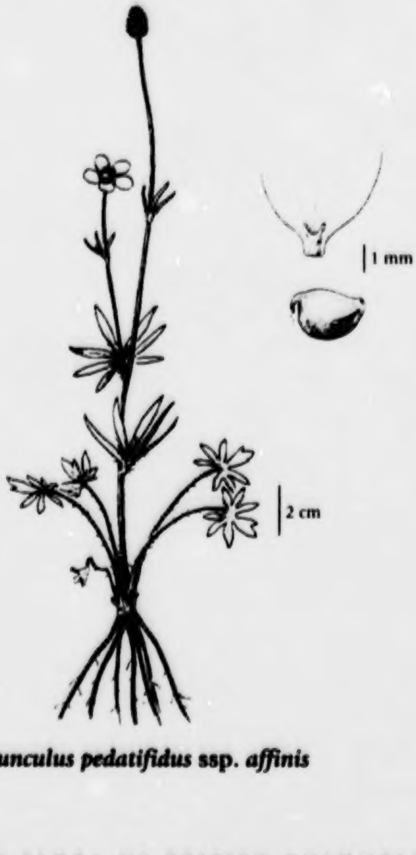
var. platyphyllus

Ranunculus orthorhynchus var. *orthorhynchus*



Ranunculus pedatifidus ssp. *affinis*

***Ranunculus pensylvanicus* L.f.**

Pennsylvania buttercup; bristly crowfoot

HABITAT/RANGE:

Wet to moist streambanks, ditches, thickets, meadows and forest edges in the lowland and montane zones; frequent S of 56°N east of the Coast-Cascade Mountains, rare westward; E to NF and S to NJ, NM, AZ, ID, MT and WA.

DESCRIPTION:

General: Annual or short-lived perennial herb from a cluster of fibrous roots; stems single, erect, 30-60 (100) cm tall, hollow; plants stiff-hairy.

Leaves: Basal, persistent, heart-shaped, 3-parted, 1.6-7 cm long, 3-9 cm wide, the leaflets usually deeply cleft, the ultimate segments narrowly elliptic, coarsely sharp-toothed, tips pointed, the leaf stalks to 15 cm long, the stalks of lateral leaflets 3-20 mm long; stem leaves alternate, 3 to 8, transitional to upper 3- to 5-lobed and toothed bracts.

Flowers: Inflorescence of few-flowered, terminal cymes, the flower stalks to 6 cm long; receptacle long stiff-hairy; petals 5, distinct, yellow, 2-4 mm long, 1-2.5 mm wide, broadly egg-shaped, nectary on upper surface, the scale about 0.7 mm long, smooth; sepals 5, bent back about 1 mm above base, deciduous, 3-5 mm long, 1.5-2 mm wide, more or less long stiff-hairy; stamens 15-25; pistils 50-80.

Fruits: Grouped in a cylindric head 9-12 mm long, 5-7 mm wide, the achenes elliptic to egg-shaped, 1.8-2.8 mm long, 1.6-2 mm wide, smooth, margins slightly keeled; beaks persistent, broadly lanceolate or triangular, 0.6-0.8 mm long, straight or nearly so.

***Ranunculus pygmaeus* Wahlenb.**

pygmy buttercup

HABITAT/RANGE:

Moist to wet seepage sites, snowbeds, shady ledges and scree slopes in the subalpine and alpine zones; infrequent, scattered throughout BC; circumpolar, N to AK, YT and NT, E to Labr. and Greenland and S to CO and UT; Iceland, N. Eurasia.

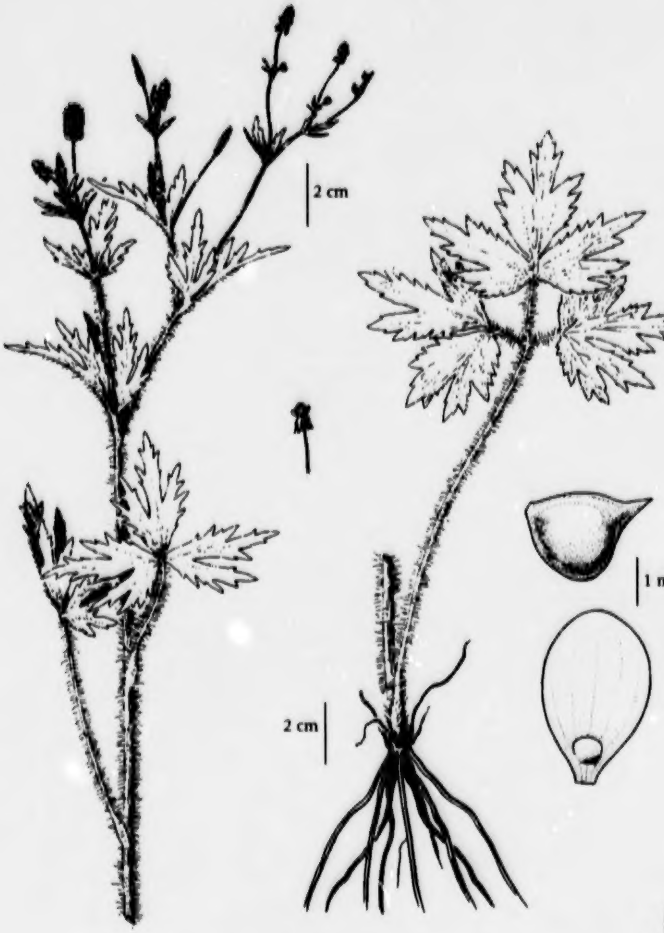
DESCRIPTION:

General: Perennial herb from short stem-base and slender, fibrous roots; stems slender, erect or ascending, 0.6-3.5 (10) cm tall, becoming smooth below, minutely-hairy above, not hollow.

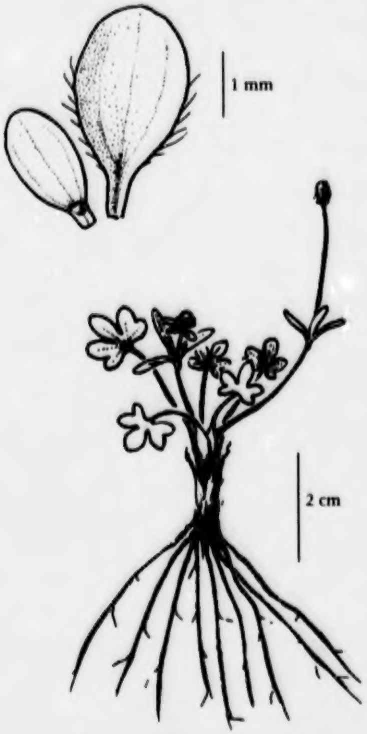
Leaves: Basal persistent, kidney-shaped to semicircular, deeply 3-lobed or -parted, 0.5-0.9 cm long, 0.6-1.3 cm wide, the lateral segments lobed, bases squared-off or nearly heart-shaped, tips rounded to blunt, the stalks to 4 cm long, very slender; stem leaves few, shorter-stalked; bracts usually of 3 linear to narrowly lanceolate lobes, 5-10 mm long.

Flowers: Inflorescence usually a solitary, terminal flower, sometimes 2-flowered, the stalks 1-7 cm long, smooth or hairy; receptacle smooth; petals 5, distinct, yellow, 1.2-3.5 mm long, 1-3 mm wide, egg-shaped, short-clawed, nectary on upper surface, the nectary scale smooth, about 0.3 mm long; sepals 5, early deciduous, spreading, greenish, 2-4 mm long, 1.2-1.6 mm wide, sparsely hairy above; stamens 10-20; pistils 25-50.

Fruits: Achenes, several to many in a globe-shaped to cylindric head 2.5-7 mm long, 2.5-5 mm wide, the achenes egg-shaped, 1-1.2 mm long, 0.8-1.1 mm wide, smooth; beaks persistent, slender, awl-shaped, straight or slightly curved at tip, 0.3-0.7 mm long.



Ranunculus pensylvanicus



Ranunculus pygmaeus

***Ranunculus repens* L.** (*R. repens* var. *glabratus* DC., *R. repens* var. *pleniflorus* Fern., *R. repens* var. *villosus* Lamotte)
creeping buttercup

HABITAT/RANGE:

Moist to wet lawns, clearings, fields, roadsides and ditches; common noxious weed in SW BC, less frequent northward on the coast and in SC BC; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from slender fibrous roots; stems several, sometimes erect, usually 1 or more creeping and freely rooting at nodes, to 100 cm long, often slightly hollow; plants hairy.

Leaves: Basal egg-shaped to triangular, 3-parted, 1-8.5 cm long, 1.5-10 cm wide, the leaflets lobed, parted, or parted and again lobed, often with pale spot at the base of each sinus, the ultimate segments egg-shaped to elliptic or sometimes narrowly oblong, toothed, tips blunt to sharp-pointed, the stalks to 40 cm long; stem leaves alternate, the lower long-stalked, transitional to the simple to 5-parted bracts.

Flowers: Inflorescence of few-flowered cymes terminal on erect stem and branches; flower stalks to 15 cm long; receptacle long stiff-hairy or rarely smooth; petals usually 5, sometimes 6 to 9 (to many), distinct, yellow, broadly egg-shaped to nearly circular, 6-18 mm long, 5-12 mm wide, nectary on upper surface, the nectary scale smooth, 1-1.5 mm long; sepals 5, spreading or bent back from base, early deciduous, greenish, 4-7 mm long, 1.5-3 mm wide, long stiff-hairy or sometimes smooth; stamens 30- 80; pistils (10) 20-50.

Fruits: Achenes, several to many in a globe- to egg-shaped head 5-10 mm long, 5-8 mm wide, the achenes egg-shaped to irregularly circular, 2.6-3.2 mm long, 2-2.8 mm wide, smooth, strongly flattened, margins prominent, somewhat keeled; beaks persistent, lanceolate, 0.8-1.2 mm long, curved.

***Ranunculus rhomboideus* Goldie**
prairie buttercup

HABITAT/RANGE:

Dry grasslands, thickets and open forests in the montane zone; rare in NE BC; N to NT, E to ON and S to MA, NB and IL.

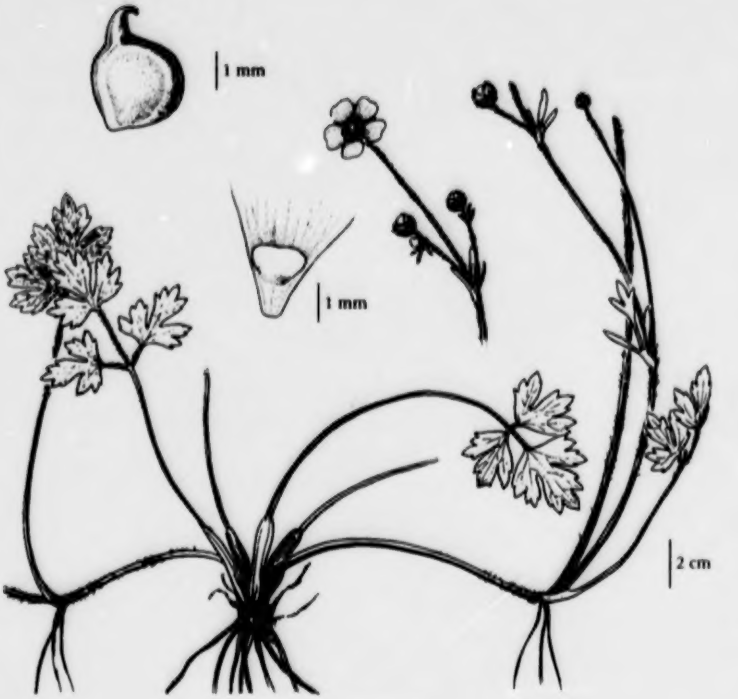
DESCRIPTION:

General: Perennial herb from fibrous roots; stems 1 to several, erect, 10-25 cm tall, usually long soft-hairy when young, becoming nearly smooth.

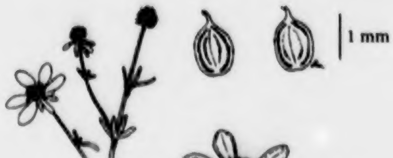
Leaves: Basal leaves persistent, egg- to diamond-shaped, undivided, 1-5 cm long, 1-3.5 cm wide, shallowly round-toothed, tips rounded, bases wedge-shaped and entire, the stalks long; stem leaves unstalked or nearly so, fan-shaped and divided nearly to base into 3 to 5 linear to lanceolate segments.

Flowers: Inflorescence a 3- to 12-flowered cyme; flower stalks long soft-hairy; receptacle long soft-hairy; petals 5, distinct, yellow, 6-8 mm long, 2-4 mm wide, egg-shaped, nectary on upper surface, the scale smooth; sepals 5, spreading to bent back, 4-6 mm long, 1.5-3 mm wide, long soft-hairy; stamens about 50; pistils 40-50.

Fruits: Achenes, numerous in a nearly globe-shaped head 4-6 mm long, 5-7 mm wide, the achenes egg-shaped, 1.8-2.2 mm long, 1.2-1.8 mm wide, smooth; beaks slender, 0.2-0.3 mm long, curved.



Ranunculus repens



Ranunculus rhomboideus

Ranunculus sardous **Crantz**

hairy buttercup

HABITAT/RANGE:

Mesic to dry roadsides and waste places in the lowland zone; rare in the Gulf Islands; introduced from Eurasia.

DESCRIPTION:

General: Annual herb from slender fibrous roots; stems nearly erect, simple to freely branched, 5-40 cm tall, stiff-hairy; plants hairy.

Leaves: Basal and lower stem leaves egg- to heart-shaped, 3-parted, 2-6 cm long, 2-6 cm wide, the leaflets lobed and deeply to shallowly round toothed, tips blunt to pointed, the stalks long; earliest basal leaves simple, 3-lobed, smaller than later leaves and withering early; upper stem leaves and bracts unstalked, or nearly so, 3-parted or simple.

Flowers: Inflorescence of 1 to few-flowered cymes terminal on main stem and branches; flower stalks 1-6 cm long; receptacle long soft-hairy; petals usually 5, distinct, yellow, egg-shaped, 7-10 mm long, 4-8 mm wide, nectary on upper surface, the nectary scale smooth, broadly egg-shaped; sepals 5, bent back, early deciduous, 3-8 mm long, 1.5-3 mm wide, long soft-hairy; stamens 25-50; pistils 10-35.

Fruits: Achenes, several to many in a globe- to egg-shaped head 5-8 mm long, 6-7 mm wide, the achenes nearly circular, 2-3 mm long, 2-3 mm wide, smooth or sparsely pimpled, strongly flattened, margins thickened; beaks persistent, stout, triangular, 0.4-0.7 mm long, curved.

Ranunculus sceleratus **L. var.** ***multifidus*** **Nutt.**

celery-leaved buttercup; cursed crowfoot

HABITAT/RANGE:

Wet to moist ponds, shores, mudflats and marshes in the lowland, steppe and montane zones; frequent in S BC east of the Coast-Cascade Mountains, infrequent elsewhere; N to AK, YT and NT, E to PQ and NB and S to LA, FL, MN, IA, NM, AZ and N CA.

DESCRIPTION:

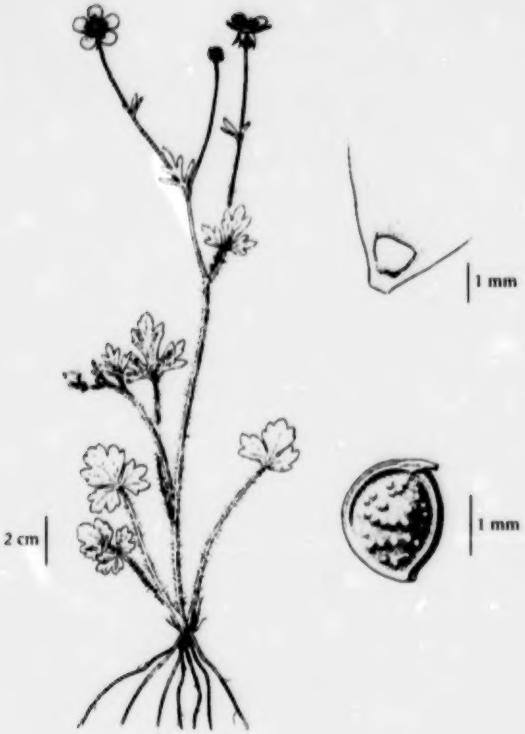
General: Amphibious, annual herb, from slender, fleshy roots; stems 1 to several, erect, 15-50 cm tall, usually branched, smooth, hollow.

Leaves: Basal and stem leaves kidney-shaped to semi-circular, deeply 3-lobed or 3-parted, 1-5 cm long, 1.5-7 cm wide, bases squared-off to heart-shaped, the segments again lobed or parted, sometimes undivided, margins round-toothed to -lobed, tips rounded or sometimes blunt, the stalks 2- to 4-times length of blade; stem leaves alternate, numerous, more deeply lobed and divided than basal leaves.

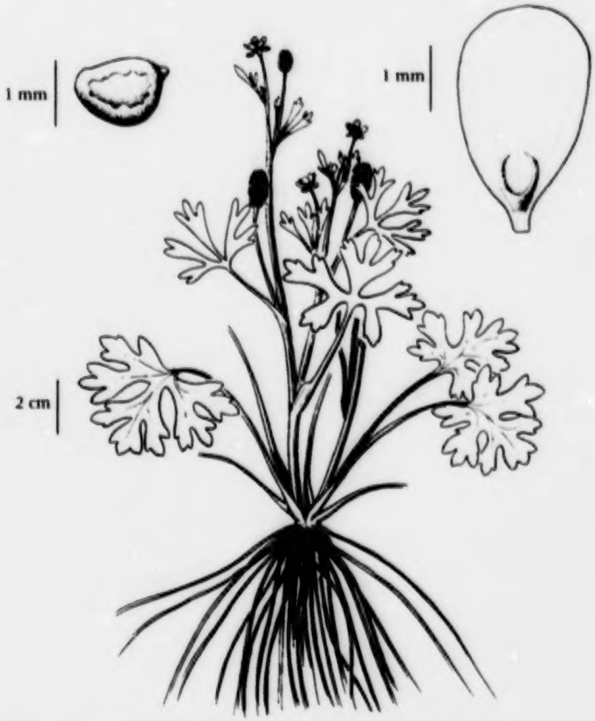
Flowers: Inflorescence of few- to many-flowered cymes terminal to main stem and branches, the flower stalks stout, 1-3 cm long; receptacle hairy or smooth; petals 3-5, distinct, yellow, 2-5 mm long, 1-3 mm wide, egg-shaped, nectary on upper surface, the nectary scale about 1 mm long, not covering nectary; sepals 3-5, yellowish, bent back from near base, 2-5 mm long, 1-3 mm wide, smooth or sparsely stiff-hairy, early deciduous; stamens 15 to 20; pistils (50) 100-250 (or more).

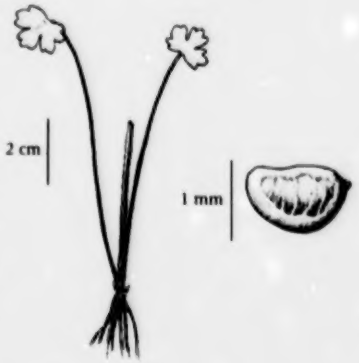
Fruits: Achenes, numerous in an elliptic to cylindric head 5-13 mm long, 3-7 mm wide, the achenes egg-shaped, slightly flattened, 1-1.2 mm long, 0.8-1 mm wide, thick-margined, smooth or corrugated; beaks stout, triangular, usually straight, 0.1 mm long.

Notes: The introduced var. *sceleratus*, with more deeply cleft basal leaves and cross-corrugated achene faces, is known in the Osoyoos area.



Ranunculus sardous





var. *sceleratus*

Ranunculus sceleratus var. *multifidus*

Ranunculus sulphureus **Soland. *ex* Phipps** (*R. sulphureus* var. *intercedens* Hult.)

sulphur buttercup

HABITAT/RANGE:

Moist to wet meadows, tundra, mossy seepage sites and scree in the alpine zone; rare in N BC; circumpolar, N to AK, YT and NT and E to Labr.; Greenland, N Eurasia.

DESCRIPTION:

General: Perennial herb from short stem-base with cluster of slender fibrous roots; stems stout, erect, 15-30 cm tall, sparsely-hairy with brown hairs or smooth.

Leaves: Basal leaves persistent, somewhat circular, 1-3 cm long, 1-3 cm wide, round-toothed or shallowly 3-lobed and round-toothed, tips round to round-pointed, bases blunt to squared-off, the stalks long; stem leaves 2 or 3, alternate, short-stalked to unstalked, deeply cleft into 3 to 5 lanceolate or egg-shaped lobes.

Flowers: Inflorescence usually a solitary, terminal flower, the flower stalk brown-hairy; receptacle brown-hairy; petals 5 (6), distinct, yellow, 8-12 mm long, 6-10 mm wide, nectary on upper surface, small, the scale smooth; sepals 5, early deciduous or persistent, 6-8 mm long, 3-6 mm wide, densely brown stiff-hairy; stamens 30-50; pistils many.

Fruits: Achenes, numerous (50-90) in a cylindric to egg-shaped head 6-7 mm long, 5-6 mm wide, the achenes egg-shaped, 1.8-2.2 mm long, 1.4-1.8 mm wide, smooth or sparsely brown-hairy, not or obscurely keeled; beaks slender, 0.8-1.4 mm long, straight or curved.

Ranunculus testiculatus **Crantz** (*Ceratocephalus testiculatus* [Crantz] Roth)

hornseed buttercup

HABITAT/RANGE:

Dry disturbed clearings and sagebrush slopes in the steppe zone; infrequent in SC and SE BC; introduced from Eurasia.

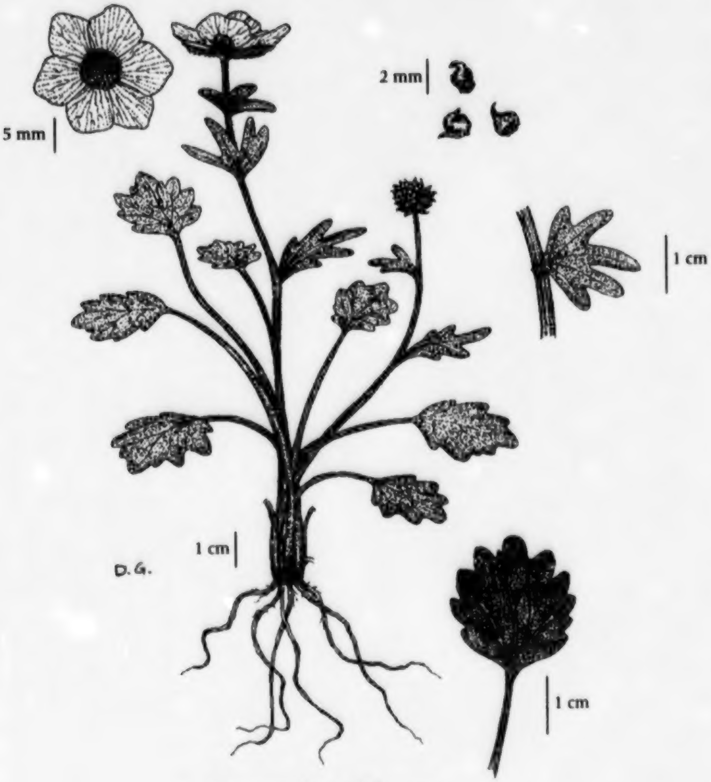
DESCRIPTION:

General: Annual herb from short taproot and cluster of fibrous roots; stems erect or ascending, 2-10 cm tall, soft-hairy; plants densely fuzzy-hairy throughout.

Leaves: All basal leaves, persistent, long-stalked, broadly spoon-shaped in outline, 1- or 2-times 3-parted, 1-4 cm long, 0.5-1.5 cm wide, the segments linear.

Flowers: Inflorescence a solitary, terminal flower, the flower stalks 2-8 cm tall, sometimes with a solitary, linear bract on the flower stem; receptacle smooth; petals 5, distinct, pale yellow, 3-5 mm long, 1-3 mm wide, nectary on upper surface, the scale about 1 mm long, smooth; sepals 5, spreading, persistent, greenish, narrowly egg-shaped, 3-6 mm long, 1-2 mm wide, soft-hairy; stamens 10-15; pistils (25) 35-70.

Fruits: Achenes, numerous in a cylindric head 9-16 mm long, 8-10 mm wide, the achenes egg-shaped, 1.6-2 mm long, 1.8-2 mm wide, densely woolly-hairy; beaks persistent, lanceolate, 3.5-4.5 mm long, straight, dagger-like.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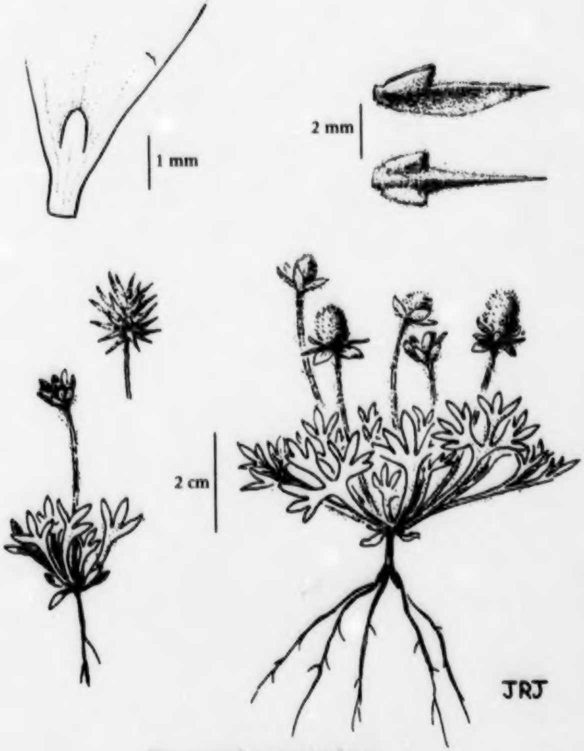
Ranunculus sulphureus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Ranunculus testiculatus

***Ranunculus uncinatus* D. Don *ex* G. Don**

little buttercup

HABITAT/RANGE:

Moist meadows, streambanks and open woodlands in the lowland, steppe and montane zones; common in BC south of 56°N, rare in NW BC; N to AK, E to AB and S to NM, AZ and CA.

DESCRIPTION:

General: Annual, biennial, or short-lived perennial herb from coarse, fibrous roots; stems single, erect, 20-60 (90) cm tall, simple or few-branched, stiff-hairy or nearly smooth, hollow.

Leaves: Basal heart- to kidney-shaped, 3-parted to deeply 3-lobed, the blades 2-6 cm long, 3-8 cm wide, the segments again lobed, the ultimate segments elliptic to lanceolate, margins few-toothed, tips pointed to rounded or blunt, the stalks up to 20 cm long; stem leaves few, alternate, the upper transitional to linear-lanceolate bracts.

Flowers: Inflorescence of few-flowered terminal and axillary cymes; flower stalks to 6 cm long; receptacle smooth; petals 5, distinct, yellow, 2-4 mm long, 1-2 mm wide, nectary on upper surface, the nectary scale as wide as long, smooth; sepals 5, bent back or sometimes spreading, 2-3.5 mm long, 1-2 mm wide, early deciduous, hairy; stamens 10-20; pistils (5) 10-30.

Fruits: Achenes, several to many in a globe-shaped head 4-7 mm long, 4-7 mm wide, the achenes egg-shaped, 2-2.8 mm long, 1.6-2 mm wide, smooth or sparsely stiff-hairy, margins prominent, keeled; beaks persistent, lanceolate, 1.2-2.5 mm long, curved and hooked.

Notes: Recognition of infraspecific entities does not appear warranted.

THALICTRUM[29]

1. Flowers perfect (bisexual); flowering stems either leafless or nearly so or with anthers not over 1 mm long.
    2. Plants with leaves all basal or nearly so, 3-25 cm tall; achenes short-stalked or unstalked; anthers 1.5-3 mm long; filaments thread-like .... *T. alpinum*
    2. Plants leafy-stemmed, 30-100 cm tall; achenes conspicuously stalked; anthers 0.4-0.8 mm long; filaments somewhat club-shaped .... *T. sparsiflorum*
1. Flowers usually imperfect (unisexual), at least in part; plants mostly dioecious, with leafy stems; anthers never less than 1 mm long.
    3. Leaflets undivided or 2- to 3- (5)- lobed at the tips, lobe margins entire .... *T. dasycarpum*
    3. Leaflets 3- to 5-lobed at the tips, lobe margins round-toothed.
        4. Achenes stalked, the stalks 0.3-1.5 mm long .... *T. occidentale*
        4. Achenes short-stalked, the stalks 0.1-0.3 mm long .... *T. venulosum*

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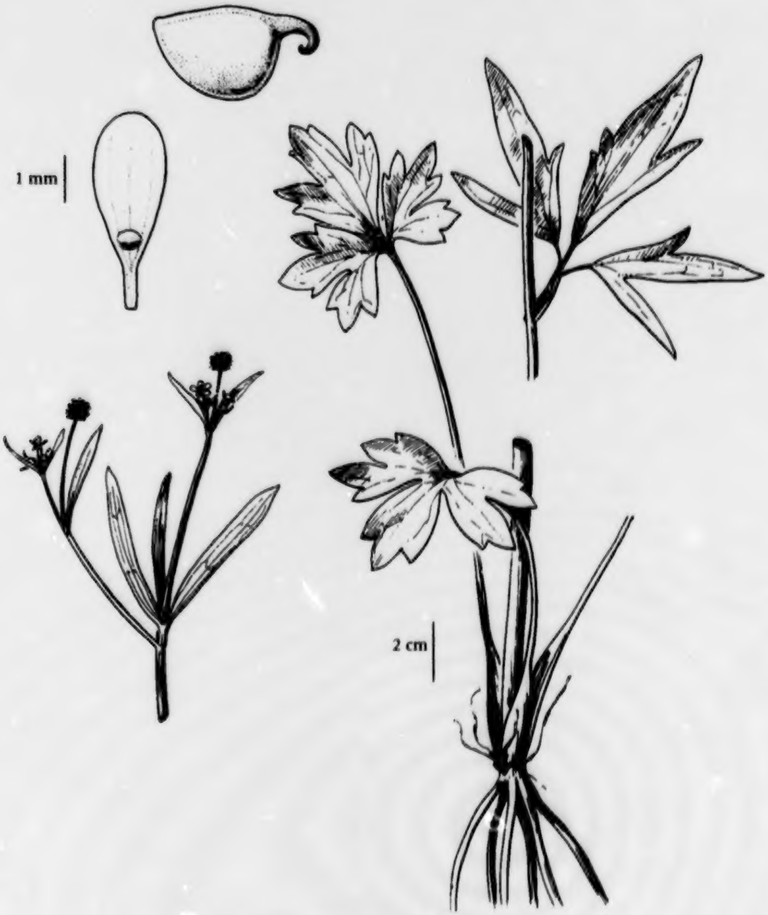
[29] Key adapted from Hitchcock *et al.* (1964).



Ranunculus uncinatus

Thalictrum alpinum **L.** (*T. alpinum* var. ***hebetum*** Boivin)
alpine meadowrue

HABITAT/RANGE:

Moist to wet meadows, seepage sites and thickets in the subalpine and alpine zones; frequent N of 56°N in BC, rare elsewhere; circumpolar, N to AK, YT and NT, E to NF and S to UT, NM and CA; Greenland, Iceland, Eurasia.

DESCRIPTION:

General: Perennial herb from slender rhizomes; stems single, erect or nearly so, (3) 5-25 cm tall; plants smooth and with a whitish bloom.

Leaves: Usually all basal, sometimes with single stem leaf near base, leathery, pale green above and paler below, 2-10 cm long, 2-times pinnately compound, the leaflets wedge egg-shaped to circular, 2-10 mm long, tips 3- to 5-lobed, margins slightly rolled under.

Flowers: Inflorescence an elongate, terminal few-flowered raceme, the flowers bisexual; flower stalks slender, curved; petals absent; sepals 4 (5), early deciduous, purple-tinged, egg-shaped or elliptic, 1-2.3 mm long; stamens 8-15, the filaments purple, threadlike, the anthers bright yellow, 1.5-3 mm long; stigmas purple.

Fruits: Achenes, 2-6, slightly curved, lance egg-shaped, 2-3.5 mm long, prominently ribbed, unstalked or short-stalked, on fruiting stalks that curve downward.

Thalictrum dasycarpum **Fisch. & Ave-Lall.** (*T. dasycarpum* var. *hypoglaucum* [Rydb.] Boivin)
purple meadowrue

HABITAT/RANGE:

Wet meadows, streambanks and woodlands in the steppe and lower montane zones; rare in SE BC; E to NB and NS and S to LA, FL, NM, AZ and NE WA.

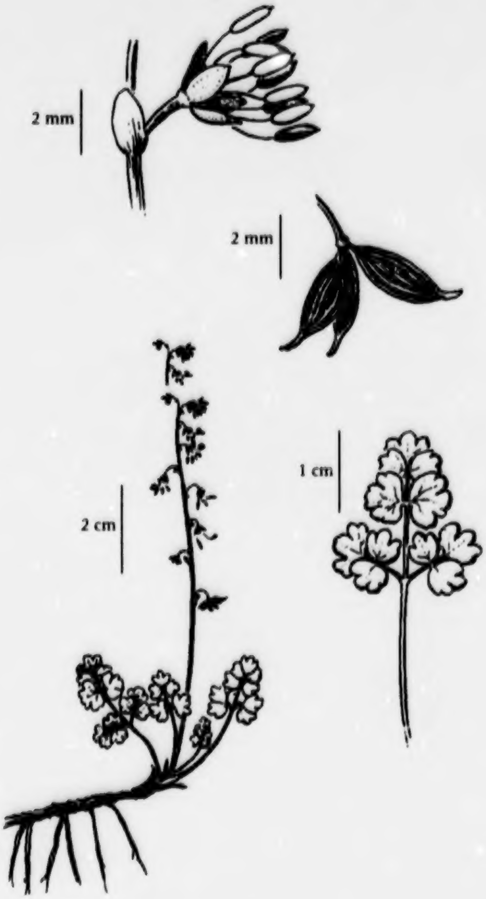
DESCRIPTION:

General: Dioecious perennial herb from a rhizome; stems erect, stout, 40-150 cm tall, simple or branched, hollow; plants smooth or sparsely minutely-hairy.

Leaves: Mostly stem leaves, alternate, the basal and lower stem leaves stalked, 3- to 5-times 3-parted, the leaflets brownish-green, dark green or bright green above, paler, prominently veined, and hairy and/or pimply with minute glands below, leathery, egg-shaped, 15-60 mm long, 8-45 mm wide, the length 1- to 2.5-times width, the tips undivided or 2- to 5-pointy- or bluntly-lobed, margins often rolled under, the upper stem leaves unstalked; stalks smooth or sometimes hairy and/or glandular-hairy.

Flowers: Inflorescence a many-flowered, pyramidal panicle, the flowers unisexual, male and female flowers on separate plants; all flower stalks usually smooth, rarely hairy or glandular-hairy; petals absent; sepals 4 (-6), whitish, lanceolate, 3-5 mm long; stamens 18-25, the filaments white to purplish, threadlike, 2-6.5 mm long, the anthers 1-3.6 mm long, sharp-pointed.

Fruits: Achenes, about 10, egg- to spindle-shaped, 2-4.6 mm long, strongly veined, usually hairy and/or glandular, unstalked or stalks to 1 mm long; beaks often deciduous, spindle-shaped, 1.5-4.5 mm long, straight.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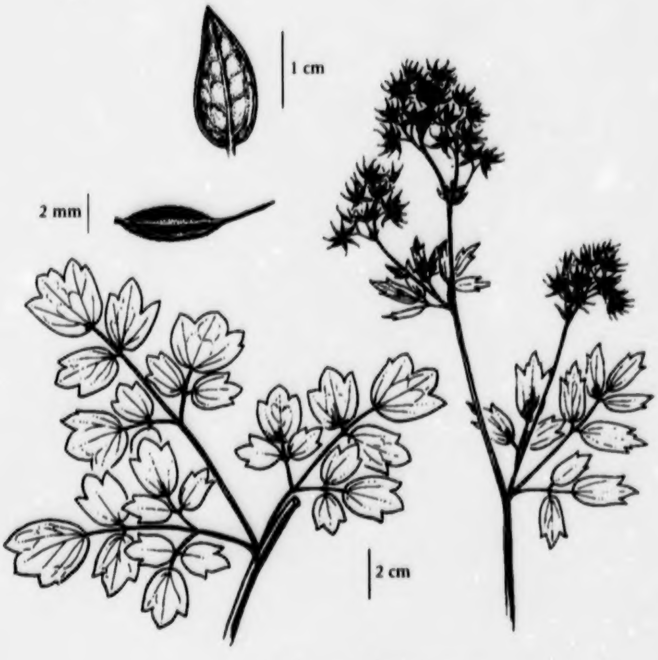
Thalictrum alpinum



Thalictrum dasycarpum

***Thalictrum occidentale* A. Gray** (*T. breitungii* Boivin, *T. occidentale* var. *macounii*, *T. occidentale* var. *palousense* St. John)
western meadowrue
HABITAT/RANGE:

Moist to mesic meadows, thickets, clearings and open forests from the lowland to subalpine zones; common throughout BC except Queen Charlotte Islands, N Vancouver Island and the adjacent coast; N to SE AK, YT and NT, E to SK and S to CO, UT and N CA.

DESCRIPTION:

General: Dioecious perennial herb from creeping, scaly rhizome and thin and fibrous roots; stems erect, 30-100 cm tall, simple or branched, smooth.

Leaves: Mostly stem leaves, alternate, with flaring stipular sheaths, the basal and stem leaves stalked, 3- to 4-times 3-parted, the leaflets smooth to glandular, circular to egg- or wedge-shaped or heart-shaped, 10-30 mm wide, tips 3-lobed, the lobe margins round-toothed.

Flowers: Inflorescence a many-flowered, open, terminal panicle, the lower bracts like reduced leaves, the upper small, simple; flowers unisexual, male and female flowers on separate plants; flower stalks about equal in length; petals absent; sepals usually 4 (-6), greenish-whitish to purplish-tinged, egg-shaped, 3.5-4.5 mm long in male flowers, 1.5-2 mm long in female flowers; stamens 15-30, the filaments purplish, threadlike, 4-10 mm long, the anthers 1.5-4 mm long, sharp-pointed; stigmas often purplish.

Fruits: Achenes, 6-9, spreading to bent back, spindle-shaped, 6-9 mm long, glandular, strongly 3-veined on each side, stalks 0.4-1.2 mm long; beaks 3-4.5 mm long.

Notes: A highly variable species, without sufficiently differentiated phases.

***Thalictrum sparsiflorum* Turcz. *ex* Fisch. & Mey.** (*T. sparsiflorum* var. *richardsonii* [A. Gray] Boivin)
few-flowered meadowrue
HABITAT/RANGE:

Moist meadows, thickets and forests in the montane zone; frequent in N BC, less frequent S to 53°N, amphiberingian, N to AK, YT and NT, E to ON and S to CO, UT, NV and CA; NE Asia.

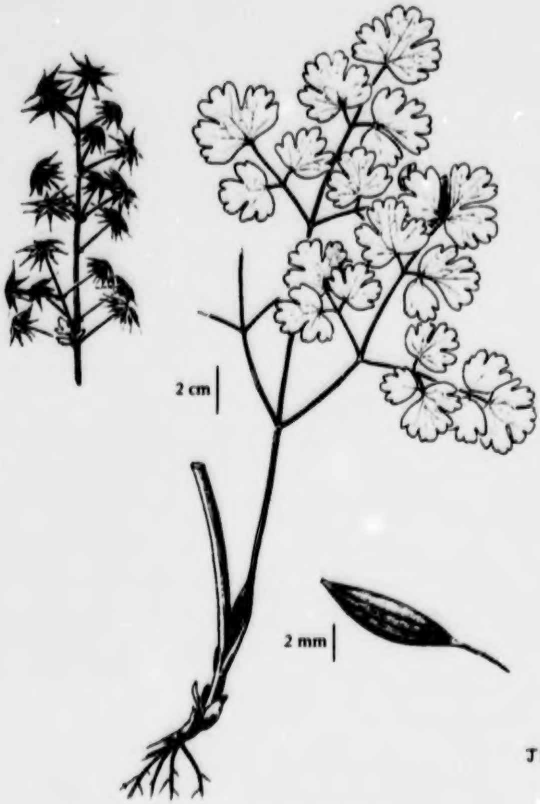
DESCRIPTION:

General: Perennial herb from a rhizome; stems erect, slender, 30-100 cm tall, simple or branched above, smooth.

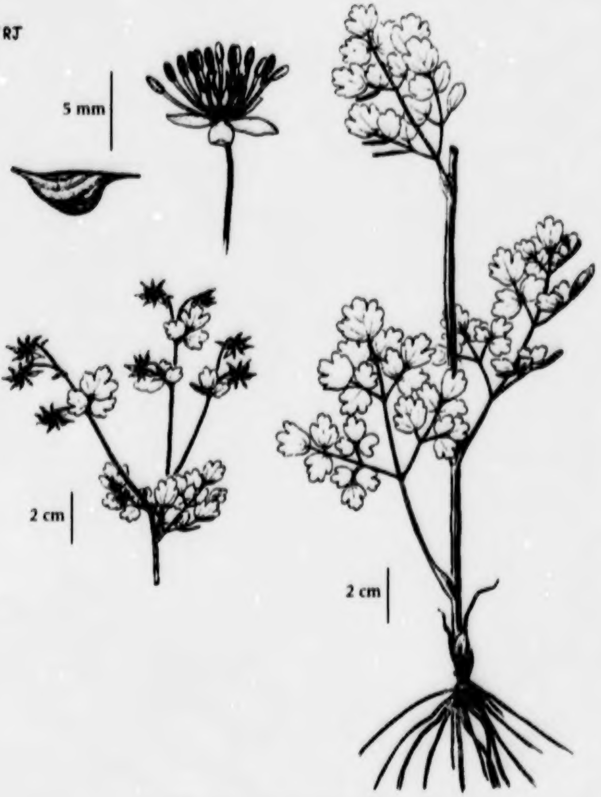
Leaves: Mostly stem leaves, alternate, the basal and stem leaves stalked, (2-) 3-times 3-parted, the leaflets thin, green and smooth above, paler and glandular-hairy below, circular to egg- or heart-shaped, 10-20 mm long, the tips round-toothed; upper stem leaves unstalked.

Flowers: Inflorescence of few-flowered, axillary racemes, the bracts leaf-like, large, the flowers bisexual, the flower stalks erect in flower, curved near tip in fruit; petals absent; sepals 5, whitish or greenish, often purplish-tinged, elliptic, 2-3.5 mm long; stamens 12-20, the filaments whitish, more or less club-shaped, 3-4.5 mm long, the anthers 0.5-0.8 mm long.

Fruits: Achenes, 6-12, spreading to reflexed, obliquely egg-shaped to half diamond-shaped, outer margin straight, 5-6 mm long, 3-4 mm wide, strongly flattened, minutely glandular-hairy, strongly 3- to 5-veined on each side, stalks 0.3-1.5 mm long; beaks 1-1.5 mm long, straight.



Thalictrum occidentale



Thalictrum sparsiflorum

***Thalictrum venulosum* Trel.** (*T. columbianum* Rydb., *T. confine* Fern. var. *columbianum* [Rydb.] Boivin)
veiny meadowrue
HABITAT/RANGE:

Moist to mesic meadows, grassy slopes, thickets and open forests in the steppe and montane zones; frequent in BC east of Coast-Cascade Mountains; N to YT and NT, E to PQ and S to MN, WI, SD, WY and OR.

DESCRIPTION:

General: Perennial herb from a rhizome; stems erect, 20-70 cm tall, smooth.

Leaves: Stem leaves 1 to 3, alternate, the basal and lower stem leaves stalked, 3- to 4-times 3-parted, the leaflets thick, circular to egg-shaped, 5-20 mm long, the tips 3- to 5-lobed, the lobes round-toothed, prominently veined and smooth or glandular-hairy below; stem leaves subtending panicle branches unstalked.

Flowers: Inflorescence a many-flowered, narrow, terminal raceme, the bracts small, the flowers unisexual, male and female flowers on separate plants; flower stalks ascending; petals absent; sepals 4 (-6), greenish-white, lanceolate to broadly egg-shaped or elliptic, 2-4 mm long; stamens 10-20, the filaments coloured, not white, threadlike, 3-5.5 mm long, the anthers 2-3.5 mm long, blunt to pointy-tipped; stigmas usually yellowish.

Fruits: Achenes, 5-17, erect to spreading, curved, elliptic-oblong, 3-4 mm long, round to slightly flattened, smooth to glandular, distinctly longitudinally veined, stalks 0.1-0.3 mm long; beaks 1.5-2.5 mm long.

TRAUTVETTERIA

***Trautvetteria caroliniensis* (Walt.) Vail** (*T. caroliniensis* var. *occidentalis* [A. Gray] C.L. Hitchc.)
false bugbane
HABITAT/RANGE:

Moist forests in the lowland and montane zones; common on Vancouver Island, infrequent on mainland coast north to 53°N, rare in SE BC; S to MO, PA, FL, NM, AZ, ID, OR and CA.

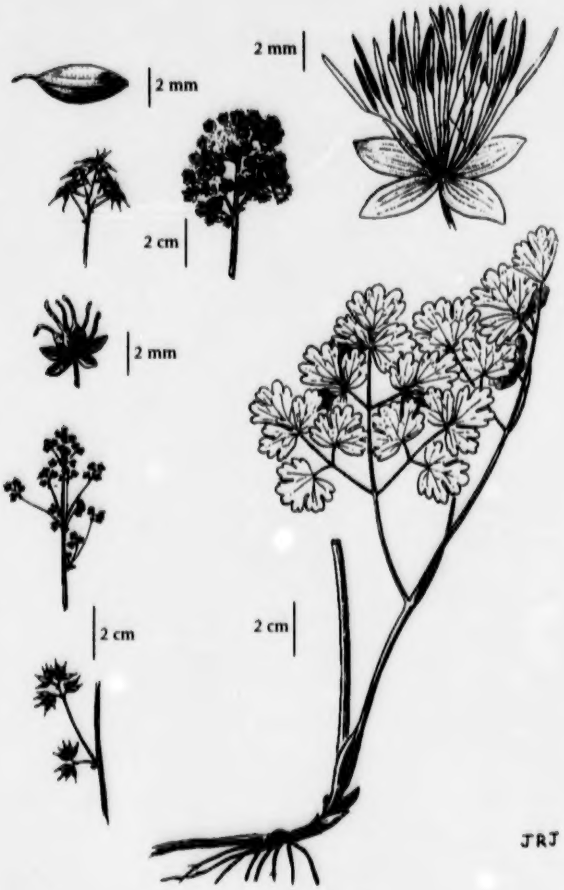
DESCRIPTION:

General: Perennial herb from widespread slender rhizomes and tufts of fibrous roots; stems 1 to several, erect, 50-80 (100) cm tall, unbranched below inflorescence, smooth or becoming so.

Leaves: Basal leaves simple, long-stalked (to 45 cm), 10-30 cm wide, palmately 5- to 11-lobed, the segments broadly wedge-shaped, margins irregularly cut to sharp-toothed, the veins conspicuous, smooth above, usually somewhat hairy and paler below; stem leaves 1 or 2, alternate, short-stalked, reduced toward top of stem.

Flowers: Inflorescence many-flowered, terminal, somewhat flat-topped clusters, the stalks of the inflorescence 10-50 cm tall, the bracts small, linear-lanceolate; petals absent; sepals 3-5 (-7), greenish-white, concave-cupped, broadly egg-shaped, clawed, 3-6 mm long; stamens 50-100, the filaments white, 5-10 mm long, the outer ones 15-20 and narrowly spoon-shaped, the inner not dilated; pistils about 15.

Fruits: Achene-like utricles in a cluster, papery, 3-4 mm long, prominently veined on the 4 angles, unstalked; beaks 0.4-0.8 mm long, curved or hooked.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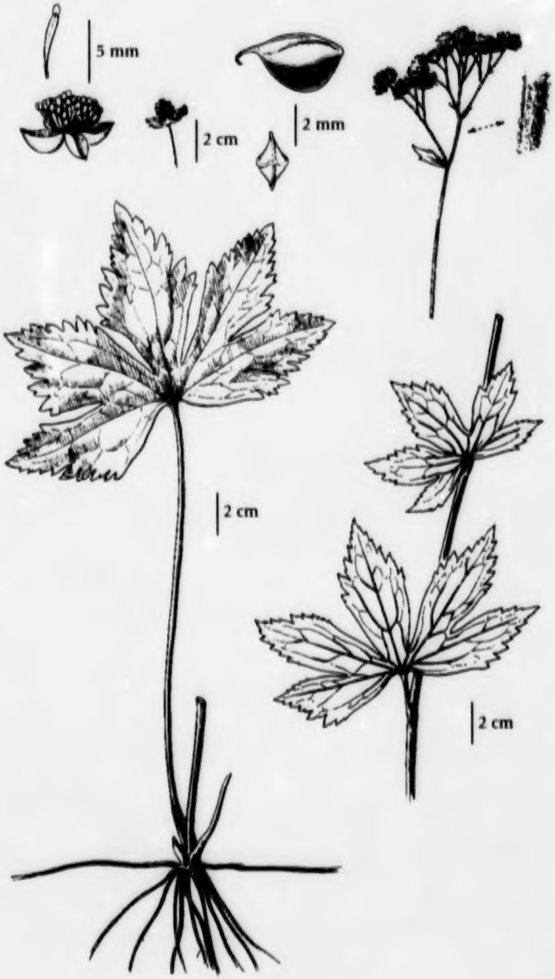
Thalictrum venulosum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Trautvetteria caroliniensis

TROLLIUS

Trollius albiflorus **(A. Gray) Rydb.** (*T. laxus* Salisb. var. *albiflorus* A. Gray)

globeflower

HABITAT/RANGE:

Wet to moist meadows and streambanks in the subalpine and alpine zones; common in S BC in and E of the Coast-Cascade Mountains and south of 55°N; E to SW AB and S to CO, UT, ID and WA.

DESCRIPTION:

General: Perennial herb from short stem-base and strong, fibrous roots; stems 1 to several, erect, 10-50 cm tall, the base with some persistent stalks from previous years; plants smooth.

Leaves: Basal leaves deeply palmately divided into (3) 5 to 7 segments, the segments egg-shaped, somewhat 3-lobed, coarsely-toothed and often incised, the stalks 4-25 cm long, with wide, membranous stipules; stem leaves 1 to 3, alternate, short-stalked to unstalked, with wide, clasping, membranous sheaths.

Flowers: Inflorescence usually solitary and terminal, the flowers 2.5-5 cm wide; flower stalks erect, 2-30 cm long; petals 15 to 25, yellow, 3-6 mm long, concealed under the longer stamens; sepals 5 to 9, spreading, white when fresh, pale yellow to greenish-white before flower opening, egg-shaped to nearly circular, 10-20 mm long.

Fruits: Follicles, usually 11 to 14, 8-16 mm long (including beak), the beaks often curved, sometimes straight; seeds black or dark brown.

RESEDACEAE

RESEDA[30]

1. Leaves 3- to several-lobed mostly above the midpoint of the blade; petals yellowish to greenish-yellow; stamens 15-25; seeds pear-shaped, black, smooth and shiny .... *R. lutea*

1. Leaves uniformly pinnatifid from the base of the blade; petals whitish to greenish-white; stamens usually 10; seeds kidney-shaped, regularly and finely pimply, dull .... *R. alba*

Reseda alba **L.**

white mignonette

HABITAT/RANGE:

Mesic to dry fields and waste places; rare in SW BC; introduced from Eurasia.

DESCRIPTION:

General: Annual or biennial herb from a branched taproot; stems erect, branched above, smooth, 30-100 cm tall.

Leaves: Basal leaves reduced; stem leaves alternate, 6-10 cm long, uniformly pinnatifid from the base of the blade with 8-22, paired, linear-elliptic segments, margins minutely toothed and papery, smooth.

Flowers: Inflorescence a terminal, spike-like raceme of numerous short-stalked flowers; petals 5-6, whitish to greenish-white, 4-6 mm long, shallowly to deeply 3-lobed, the central lobe narrower than the outer ones; sepals 5-6, 1/2 the length of the corolla; stamens 11-13.

Fruits: Capsules, oblong, 10-13 mm long; seeds kidney-shaped, 1.2-1.4 mm long, finely pimpled, dull.

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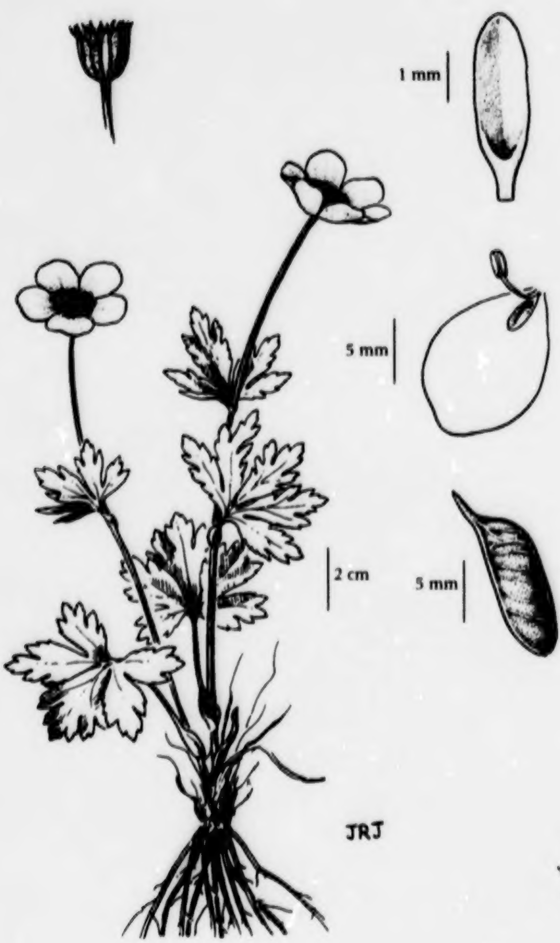
[30] Key adapted from Hitchcock and Cronquist (1973).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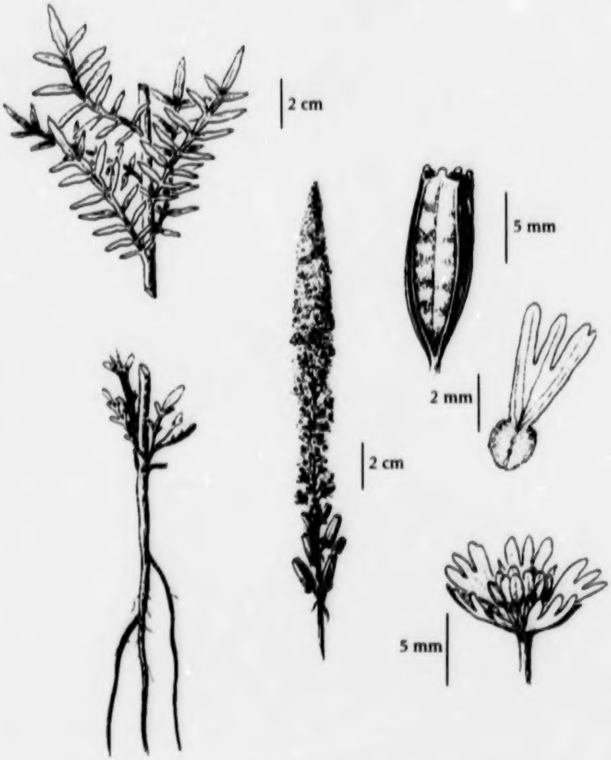
Trollius albiflorus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Reseda alba

***Reseda lutea* L.**

yellow mignonette

HABITAT/RANGE:

Mesic to dry fields and waste places; rare in SW and SC BC; introduced from Eurasia.

DESCRIPTION:

General: Biennial herb from a branched taproot; stems ascending to erect, several, branched, smooth, 30-70 cm tall.

Leaves: Basal leaves 3-lobed above the midpoint of the blade, smooth; stem leaves alternate, 3- to 7-lobed into narrow segments, smooth, the lowest pair lobed again and minutely toothed.

Flowers: Inflorescence a spike-like raceme with short-stalked flowers; petals 6, yellowish to greenish-yellow, 2-5 mm long, deeply 3-lobed, the lobes equally linear or the central lobe much narrower and shorter than the outer ones; sepals 6, linear, about 1 mm long; stamens 15-25.

Fruits: Capsules, oblong, 6-8 mm long; seeds pear-shaped, 1.5-1.7 mm long, black, smooth, shiny.

RHAMNACEAE

1. Fruits berry-like drupes; flowers greenish; petals short-clawed or absent .... *Rhamnus*
1. Fruits dry, hardened capsules; flowers white; petals long-clawed .... *Ceanothus*

CEANOTHUS

1. Leaves evergreen, shiny above; twigs more or less hairy .... *C. velutinus*
1. Leaves deciduous, not shiny above; twigs smooth .... *C. sanguineus*

***Ceanothus sanguineus* Pursh**

redstem ceanothus

HABITAT/RANGE:

Mesic to dry rocky slopes, shrublands, open forests and burns in the lowland, steppe and montane zones; common in S BC; S to ID, MT and CA, disjunct in MI.

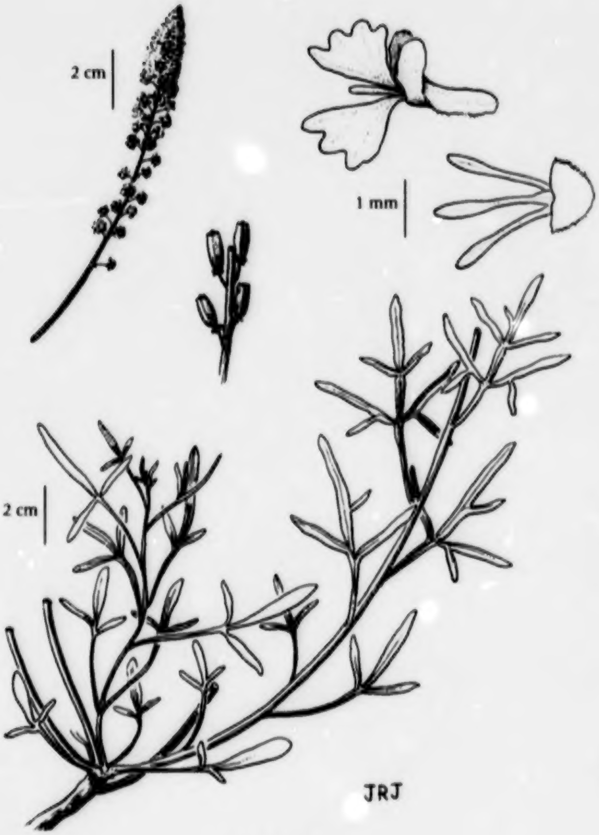
DESCRIPTION:

General: Deciduous shrub 1-3 m tall; stems numerous, erect, greenish, becoming purplish-red, smooth.

Leaves: Alternate, the blades egg-shaped to elliptic, 3-10 cm long, hairy on the underside of the veins, finely toothed, glandular; stalks 1-2.5 cm long; stipules 3-6 mm long, soon deciduous.

Flowers: Inflorescence a terminal panicle with numerous flowers on short lateral branches of last year's growth; petals 5, white, long-clawed; calyces 5-lobed, the lobes deciduous.

Fruits: Capsules, 3-4 mm long, separating into 3, dehiscent, rounded carpels; seeds 1 per carpel.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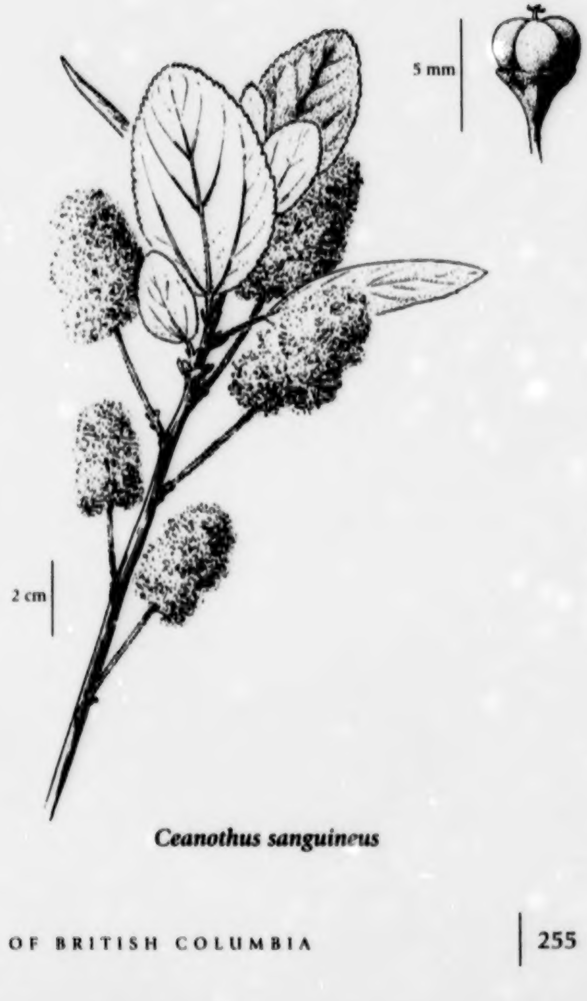
Reseda lutea



Ceanothus sanguineus

Ceanothus velutinus **Dougl. *ex* Hook.** (*C. velutinus* var. *laevigatus* [Hook.] T. & G. = var. *hookeri*)

snowbrush

HABITAT/RANGE:

Mesic to dry rocky slopes, shrublands, open forests and burns in the lowland, steppe and montane zones; common in S BC except rare on Vancouver Island; E to SW AB and S to SD, CO and CA.

DESCRIPTION:

General: Evergreen shrub 0.5-2 m tall; stems numerous, prostrate to erect, green, minutely hairy to smooth.

Leaves: Alternate, the blades egg-shaped to elliptic, 5-10 cm long, smooth, shiny above, often tinged with brown and sticky above, greyish-hairy to smooth below, finely toothed; stalks 1-2 cm long; stipules 1 mm long, deciduous.

Flowers: Inflorescence a pyramidal, terminal cluster of flowers at the end of side branches; petals 5, white, long-clawed; calyces 5-lobed, the lobes deciduous.

Fruits: Capsules, 4-5 mm long, 3-lobed, separating into 3, dehiscent, rounded carpels, the carpels slightly crested above; seeds 1 per carpel.

Notes: Two varieties occur in BC:

1. Leaves smooth on lower surface, at least on the veins; plants occurring W of the Coast-Cascade Mountains .... var. *hookeri* M.C. Johnston.

1. Leaves finely short-hairy on lower surface; plants occurring E of the Coast-Cascade Mountains .... var. *velutinus*

RHAMNUS

1. Flowers 8-25 in stalked umbels; petals present; plants tall shrubs or small trees 1-10 m tall, of S BC .... *R. purshiana*

1. Flowers 2-5 in unstalked umbels; petals usually absent; plants shrubs 0.5-1.5 m tall, of SE BC .... *R. alnifolia*

Rhamnus alnifolia **L'Her.**

alder-leaved buckthorn

HABITAT/RANGE:

Swamps and wet to moist meadows and streambanks in the steppe and montane zones; locally frequent in SE BC; E to NF and S to ME, OH, PA, ID, WY and CA.

DESCRIPTION:

General: Deciduous (unisexual) shrub 0.5-1.5 m tall; stems spreading to erect, grey, smooth.

Leaves: Alternate, narrowly egg-shaped to narrowly elliptic, the blades 6-11 cm long, glandular-toothed with 5-7 main lateral veins, finely short-hairy; stalks 4-12 mm long; stipules oblong, 3-6 mm long, soon deciduous.

Flowers: Inflorescence an axillary, unstalked cluster of 2-5 male or female flowers; petals lacking; hypanthium bell-shaped; calyces usually 5-lobed, sometimes 4-lobed, the lobes triangular, smooth.

Fruits: Berries, 6-8 mm long, black to bluish-black; seeds 3.

Rhamnus purshiana **DC.**

cascara

HABITAT/RANGE:

Moist to mesic streambanks, thickets, woodlands and forests in the lowland, steppe and montane zones; common in SW BC, frequent in SC and SE BC south of 51°N; S to ID, MD and CA.

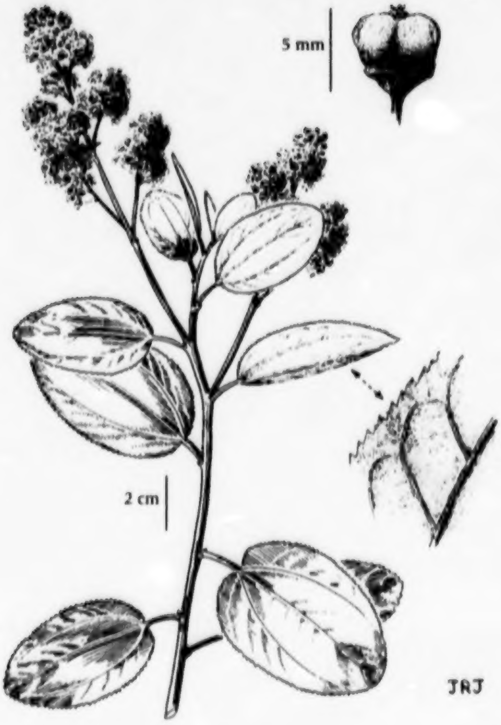
DESCRIPTION:

General: Deciduous shrub or small tree up to 10 m tall with yellow- to brownish hairs, bark silvery-grey.

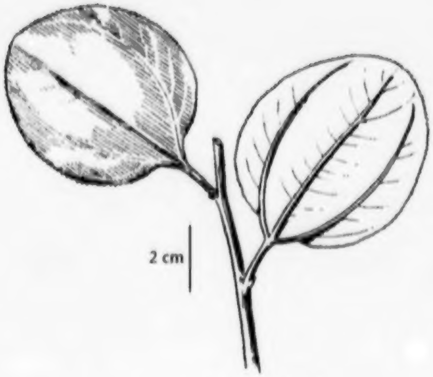
Leaves: Alternate, egg-shaped to broadly elliptic, the blades 6-13 cm long, finely toothed with 10-12 conspicuous pairs of parallel veins, the veins short-hairy; stalks 5-23 mm long; stipules lacking.

Flowers: Inflorescence an axillary, stalked cluster of 8-25 male and/or female flowers; petals 5, greenish, hooded, 3-4 mm long; hypanthium lined with a thin disc; calyces 5-lobed, the lobes triangular, finely hairy.

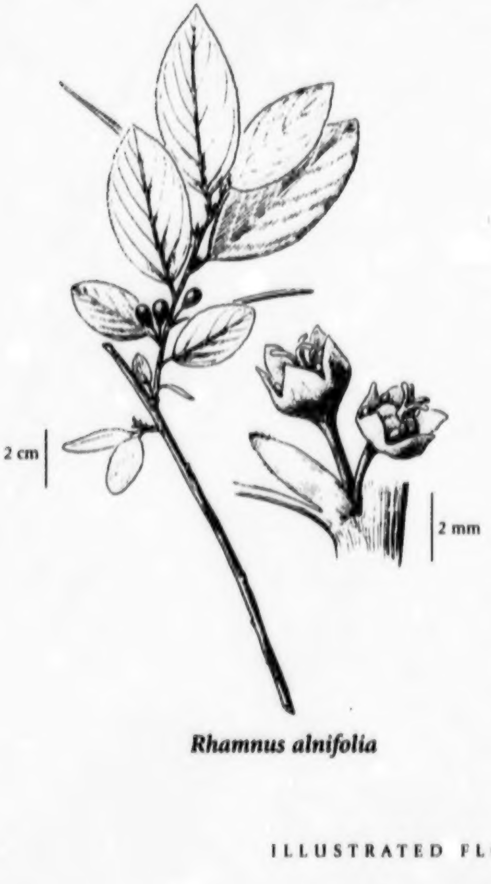
Fruits: Berries, 6-10 mm long, black to purplish-black; seeds 3.



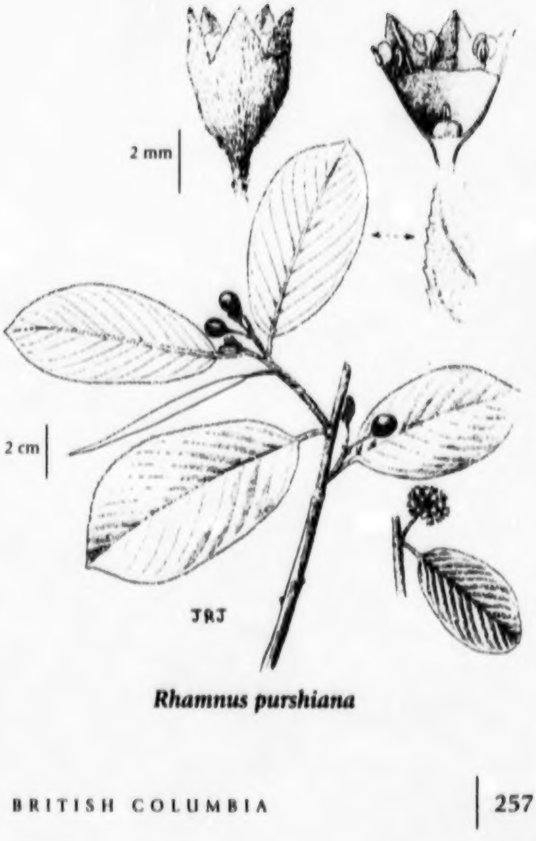
Ceanothus velutinus var. *velutinus*



var. *hookeri*



Rhamnus alnifolia



Rhamnus purshiana

ROSACEAE[31, 32]

1. Ovaries superior; fruits achenes, follicles, drupes, or many fused drupelets.
    2. Fruits fleshy, drupes or fused drupelets.
        3. Pistils many, becoming fused drupelets; leaves often compound .... *Rubus*
        3. Pistils 1 to 5, becoming individual drupes; leaves simple.
            4. Pistils 1; drupes solitary; pith not chambered; trees with perfect (bisexual) flowers ...... *Prunus*
            4. Pistils 5; drupes often more than one per flower; pith chambered; dioecious shrubs (male and female flowers on separate plants) .... *Oemleria*
    2. Fruits dry, achenes or follicles (achenes on fleshy receptacles in *Duchesnea* and *Fragaria*).
        5. Leaves simple, at most lobed or divided.
            6. Plants herbs or prostrate shrubs.
                7. Flowers solitary; achenes feathery-hairy .... *Dryas*
                7. Flowers in cymes or racemes; achenes not feathery-hairy.
                    8. Plants evergreen trailing semi-shrubs; flowers in elongated racemes .... *Luetkea*
                    8. Plants herbaceous; flowers in rounded or somewhat flat-topped cymes.
                        9. Petals present; stamens 5 .... *Chamaerhodos*
                        9. Petals absent; stamens 1 or 4.
                            10. Cymes terminal; stamens 4; plants perennials with prominent basal rosette of leaves .... *Alchemilla*
                            10. Cymes axillary; stamens 1; plants annuals lacking basal rosette .... *Aphanes*
            6. Plants erect shrubs.
                11. Leaves 3-cleft; flowers solitary .... *Purshia*
                11. Leaves toothed or lobed; inflorescences many-flowered.
                    12. Leaves palmately veined and lobed .... *Physocarpus*
                    12. Leaves pinnately veined and lobed.
                        13. Fruits achenes; lobes or teeth nearest the base of leaves the largest .... *Holodiscus*
                        13. Fruits follicles; teeth more or less uniformly distributed .... *Spiraea*
        5. Leaves compound.
            14. Leaves compound with 3 leaflets.
                15. Plants with stolons; receptacle conical, becoming fleshy at maturity.
                    16. Petals yellow; calyx bractlets 3-(5)-lobed, much longer than calyx-lobes..... *Duchesnea*
                    16. Petals white; calyx bractlets simple, shorter than calyx-lobes .... *Fragaria*
                15. Plants without stolons; receptacle flat, dry at maturity.
                    17. Corollas conspicuous; petals usually greater than 5 mm long, longer than calyx-lobes; stamens often more than 10 .... *Potentilla*

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[31] Contributed by J. Pojar.

[32] Key adapted from Taylor (1973).

17. Corollas inconspicuous; petals less than 5 mm long, equal to or shorter than calyx-lobes; stamens 5 .... *Sibbaldia*

14. Leaves pinnately or palmately compound; leaflets more than 3.

18. Plants dioecious, male and female flowers on separate plants; leaves 2 or 3 times compound in 3s .... *Aruncus*

18. Flowers perfect (bisexual); leaves once pinnately or palmately compound.

19. Achenes encased in hypanthium at maturity.

20. Hypanthium becoming bur-like at maturity, with hooked bristles .... *Agrimonia*

20. Hypanthium not bur-like, lacking hooked bristles.

21. Plants shrubs, prickly or bristly-stemmed; flowers with showy petals; hypanthium becoming fleshy at maturity .... *Rosa*

21. Plants herbs, not prickly or bristly-stemmed; petals lacking; hypanthium not fleshy at maturity .... *Sanguisorba*

19. Achenes not encased in hypanthium at maturity.

22. Styles persistent and elongated after blooming, feathery-hairy or jointed ..... *Geum*

22. Styles usually deciduous, not elongated after blooming.

23. Petals reddish-purple .... *Comarum*

23. Petals yellow to whitish.

24. Plants shrubs; achenes hairy .... *Pentaphylloides*

24. Plants herbs; achenes smooth .... *Potentilla*

1. Ovaries inferior; fruits pomes.

25. Leaves pinnately compound .... *Sorbus*

25. Leaves simple.

26. Stems with stout thorns; carpels with hardened, shell-like covering, each one-seeded ..... *Crataegus*

26. Stems lacking thorns (sometimes with thorn-like leaf-spurs on short shoots in *Malus* and *Pyrus*); carpels lacking hardened covering, each two-seeded.

27. Margins of leaves entire .... *Cotoneaster*

27. Margins of leaves toothed.

28. Leaves evergreen .... *Pyracantha*

28. Leaves deciduous.

29. Flowers in racemes; fruits blue-black at maturity; leaves oval to nearly round .... *Amelanchier*

29. Flowers in cymes; fruits yellow to red at maturity; leaves lance-egg-shaped to elliptic.

30. Fruits with grit-cells in the flesh; leaves shiny above, smooth throughout ..... *Pyrus*

30. Fruits lacking grit cells in the flesh; leaves dull above, often hairy, especially beneath .... *Malus*

AGRIMONIA

1. Plants with glandular and a few long, spreading, non-glandular hairs in inflorescences and on upper stems .... *A. gryposepala*

1. Plants lacking glandular hairs, but with short, ascending hairs in inflorescences and on upper stems .... *A. striata*

Agrimonia gryposepala **Wallr.**

common agrimony

HABITAT/RANGE:

Mesic to moist edges of forests and thickets in the lowland to montane zones; infrequent in S BC; E to NF and S to CA, MO and NC.

DESCRIPTION:

General: Perennial herb from a stout rhizome with fibrous roots; stems coarse, stiff, erect, 0.5-1.2 m tall, sometimes forked above, glandular and long-hairy.

Leaves: Alternate, interruptedly odd-pinnately compound, the 5 to 11 main leaflets interspersed with much smaller ones; leaflets elliptic to egg-shaped, 2-10 cm long, coarsely saw-toothed, tapering to sharp tip, dark green and nearly smooth above, paler, soft-hairy on the veins and glandular-dotted beneath; stipules leaf-like, half-heart-shaped, to 2 cm long.

Flowers: Inflorescence a long, slender, terminal, spike-like raceme of 10 to 50 small, short-stalked flowers, the racemes 10-40 cm long, the axis glandular and with long spreading hairs; corollas yellow, saucer-shaped, the petals 5, oblong, 2-4 mm long; calyces 5-lobed, the lobes broadly lanceolate, spreading then converging after flowering and forming a beak on the fruit, the hypanthium conic, grooved, hooked-prickly; ovaries superior; stamens 5 to 15.

Fruits: Achenes, 2, seed-like, enclosed within the enlarged hardened hypanthium, the hypanthium grooved, glandular-dotted, with a crown of spreading, hooked bristles; entire bur-like fruit including the beak 6-8 mm long.

Agrimonia striata **A. Michx.**

grooved agrimony

HABITAT/RANGE:

Mesic to moist meadows, thickets and open forests in the montane zone; infrequent in S BC east of the Coast-Cascade Mountains, disjunct in west-central BC (Hazelton area); E to NF and S to AZ, NE and WV.

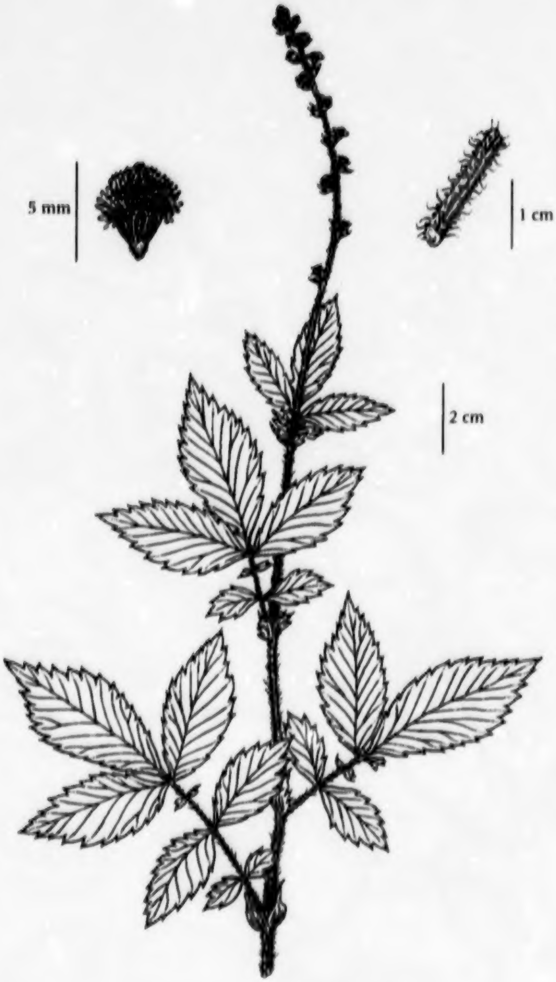
DESCRIPTION:

General: Perennial herb from a stout rhizome with fibrous roots; stems coarse, stiff, erect, 0.5-1 m tall, sometimes forked above, with both coarse and short, mostly spreading hairs.

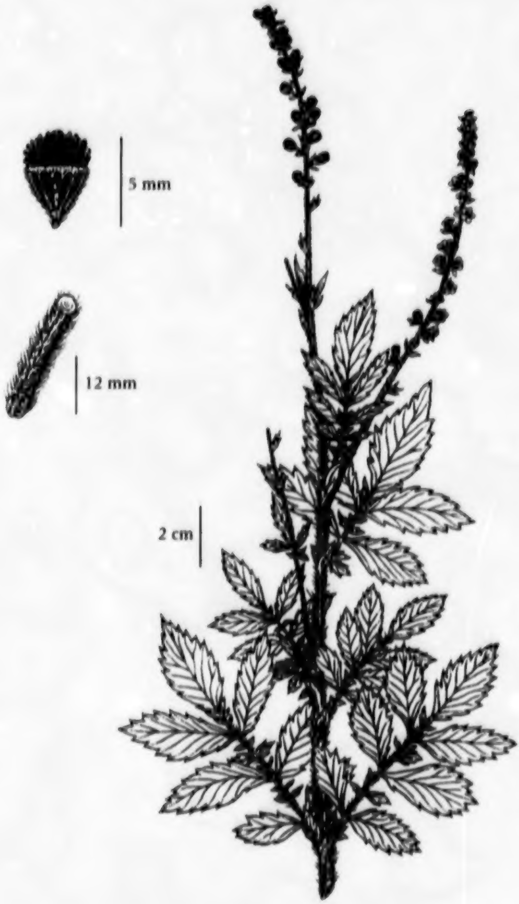
Leaves: Alternate, interruptedly odd-pinnately compound, the 5 to 11 main leaflets interspersed with much smaller ones; leaflets lanceolate to narrowly egg-shaped, 1-6 cm long, coarsely saw-toothed, long-tapering to sharp tip, dark green and somewhat spreading-hairy above, paler, veiny, soft-hairy and glandular-dotted beneath; stipules leaf-like, lance-egg-shaped, to 2 cm long.

Flowers: Inflorescence a long, slender, terminal, spike-like raceme of several small, short-stalked flowers, the racemes 5-20 cm long, the axis without glands but with short, mostly ascending hairs; corollas yellow, saucer-shaped, the petals 5, about 3 mm long; calyces 5-lobed, the lobes lanceolate, spreading then converging after flowering and forming a beak on the fruit, the hypanthium conic, grooved, hooked-prickly; ovaries superior; stamens 5 to 15.

Fruits: Achenes, 2, seed-like, enclosed within the enlarged hardened hypanthium, the hypanthium 10-grooved, minutely hairy in the grooves, glandular-dotted, with a crown of hooked bristles; entire bur-like fruit including the beak 4-5 mm long.



Agrimonia gryposepala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Agrimonia striata

ALCHEMILLA

Alchemilla subcrenata **Buser** (*Alchemilla vulgaris* L., *pro parte*)

lady's mantle

HABITAT/RANGE:

Open, grassy areas in the montane zone; rare in C BC, known only from Wells and Barkerville; introduced from Europe.

DESCRIPTION:

General: Perennial herb from a thick creeping rhizome, spreading-long-hairy throughout; stems erect or ascending, 15-50 cm tall, simple or branched.

Leaves: Basal leaves long-stalked, the blades kidney-shaped in outline, 3-10 cm wide, palmately-lobed, the lobes 7 to 9, shallow (a bit wider than long), rounded, coarsely sharp-toothed; stem leaves alternate, similar to the basal but reduced and nearly unstalked; stipules brownish, membranous, toothed, to 15 mm long.

Flowers: Inflorescence of numerous small flowers in bracted, terminal, branched clusters; corollas absent; calyces greenish-yellow, sparsely hairy to smooth, 3-4 mm long, 4-lobed, the lobes broadly egg-shaped, about as long as the bell-shaped hypanthium, alternating with 4 lanceolate, shorter bractlets; ovaries superior; stamens 4.

Fruits: Achenes, 1, egg-shaped, about 1 mm long.

AMELANCHIER

Amelanchier alnifolia **Nutt.**

saskatoon

HABITAT/RANGE:

Dry to mesic, open rocky slopes, bluffs, gullies, thickets, forest margins and open forests in the lowland to subalpine zones; common throughout BC, especially in C and S BC, east of the Coast-Cascade Mountains; N to AK, E to AB and S to CA, NE, ND, CO and AZ.

DESCRIPTION:

General: Shrub or rarely a small tree, 1-6 (10) m tall; stems slender, smooth; twigs smooth, reddish-brown; bark greyish to red-brown; sometimes spreading by rhizomes or stolons and forming dense colonies.

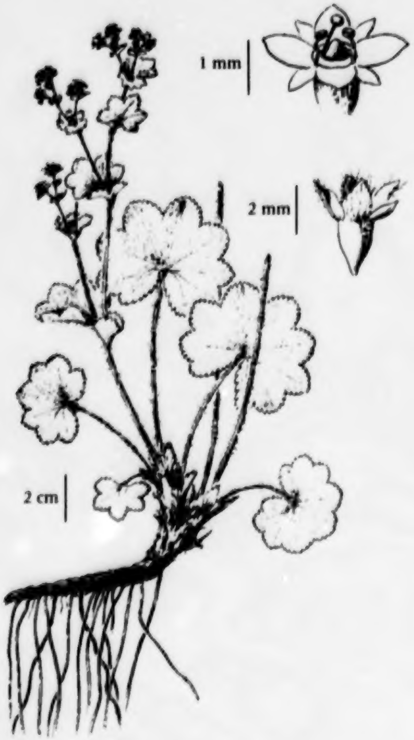
Leaves: Alternate, deciduous, oval to oblong-elliptic or nearly round, saw-toothed mostly on top half but sometimes nearly entire, broadly rounded to somewhat squared-off at the tip, smooth to variously hairy at least below; blades 2-5 cm long, stalks 0.5-2 cm long.

Flowers: Inflorescences short, drooping to erect, leafy or bracted, terminal racemes at the ends of branches; flowers 3 to 20, on slender ascending stalks; corollas white, the petals 5, linear to lanceolate, 6-25 mm long; calyces 5-lobed, the lobes lance-triangular, 1-5 mm long, the hypanthium 1-2 mm long; ovaries inferior, smooth or hairy on top; stamens about 20.

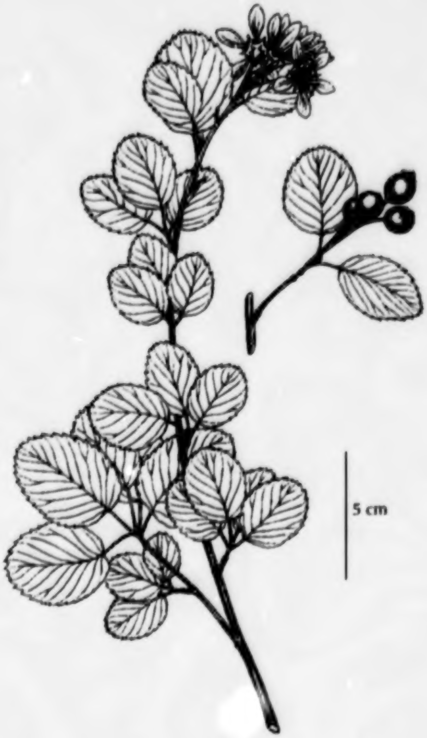
Fruits: Berry-like pomes (like miniature apples), crowned with the persistent calyx, globe- to egg-shaped, 5-14 mm long, dull red initially, becoming purple to nearly black, with a white bloom.

Notes: Four intergrading varieties occur in BC:

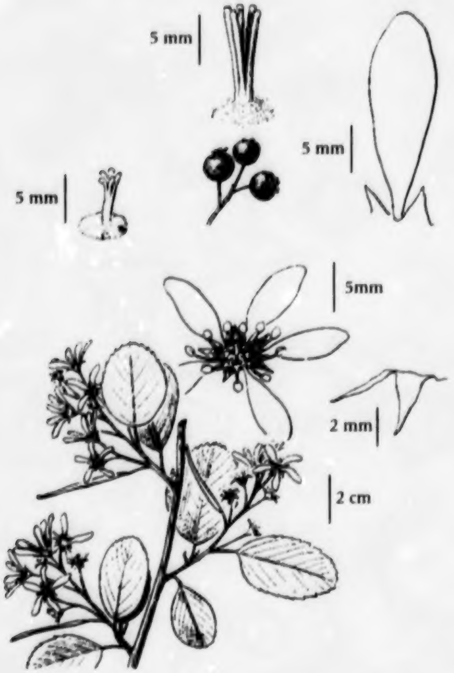
1. Petals less than 12 mm long; tops of ovaries strongly hairy.
    2. Flowers generally with 4 styles; leaves entire or with a few tiny teeth near tips .... var. *humptulipensis* (G.N. Jones) C.L. Hitchc.
    2. Flowers generally with 5 styles; leaves usually strongly toothed on upper half .... var. *alnifolia*
1. Petals over 12 mm long; tops of ovaries hairy or smooth.
    3. Petals generally less than 16 mm long and 4 mm wide; calyx lobes averaging less than 3 mm long; top of ovary woolly .... var. *semiintegrifolia* (Hook.) C.L. Hitchc.
    3. Petals generally greater than 16 mm long and up to 8.5 mm wide; calyx lobes averaging more than 3 mm long; top of ovary smooth to moderately hairy .... var. *cusickii* (Fern.) C.L. Hitchc.



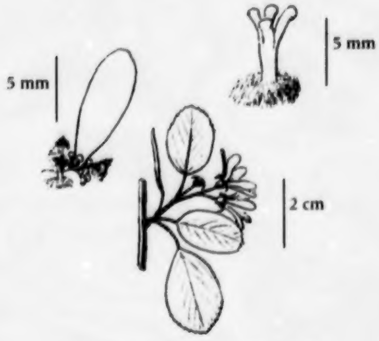
Alchemilla subcrenata



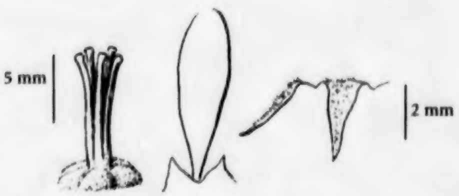
Amelanchier alnifolia var. *alnifolia*


5 mm
5 mm
5 mm
5mm
2 mm
2 cm

Amelanchier alnifolia var. *cusickii*



var. *humptulipensis*



var. *semiintegrifolia*

APHANES

1. Leaf blades 4-10 mm long; fruits (hypanthium plus calyx-lobes and achene) 1.5-2.5 mm long; stipule lobes triangular .... *A. arvensis*
1. Leaf blades 3-5 mm long; fruits 1.4-1.8 mm long; stipule lobes oblong .... *A. microcarpa*

Aphanes arvensis **L.** (*Aphanes occidentalis* [Nutt.] Rydb., *Alchemilla occidentalis* Nutt.)
field parsley-piert

HABITAT/RANGE:

Dry to vernally moist, open rocky slopes, grassy meadows and clearings, roadsides and waste places in the lowland and montane zones; frequent in SW BC, rare inland in S BC; S to CA.

DESCRIPTION:

General: Low annual herb from a taproot; stems decumbent to erect, 2-20 cm tall, usually freely branched from the base, soft-hairy.

Leaves: Alternate, short-stalked, broadly egg- to fan-shaped, the blades 4-10 mm long; sparsely long-hairy on both surfaces, deeply palmately cleft into 3 wedge-shaped segments themselves divided into 3 to 5 oblong lobes; stipules fused into a lobed, leaf-like cup, the lobes of the stipules surrounding the flower clusters triangular and 1/2 the length of the unlobed portion.

Flowers: Inflorescence of axillary clusters of 5 to 15 tiny, short-stalked flowers, the clusters borne along most of the length of the stem at each node, in the axils of sheathing stipules; corollas lacking; calyces green, urn-shaped, long-hairy, 1-2.5 mm long, 4-lobed, the lobes triangular-egg-shaped, erect, 0.2-0.6 mm long; ovaries superior; stamens usually 1.

Fruits: Achenes, 1, ellipsoid, smooth, about 1 mm long, encased within the dry hypanthium, which has ascending calyx-lobes so that the whole structure appears flask-shaped, this 1.5-2.5 mm long.

Aphanes microcarpa **(Boiss. & Reuter) Rothm.**
small-fruited parsley-piert

HABITAT/RANGE:

Dry to vernally moist waste places in the lowland zone; infrequent in SW BC; introduced from Europe.

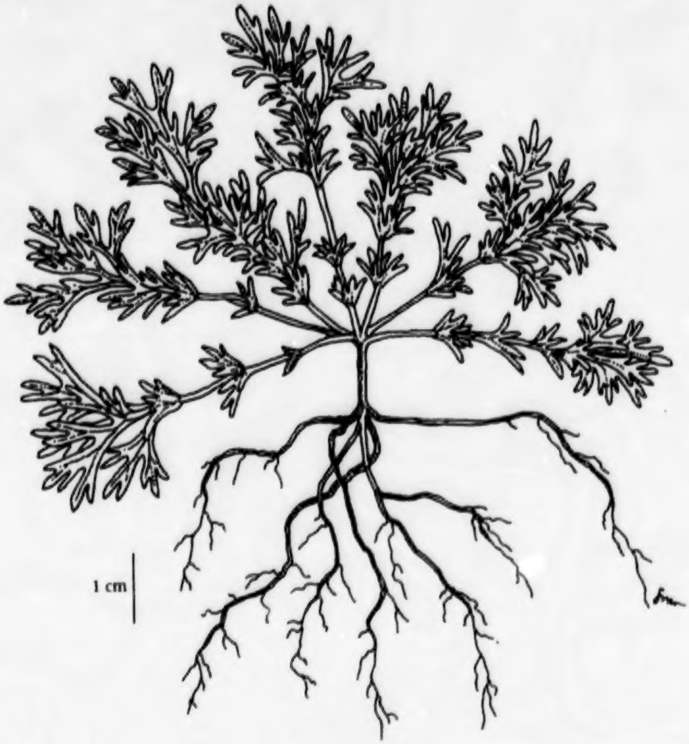
DESCRIPTION:

General: Low annual herb from a taproot; stems decumbent to erect, 2-20 cm tall, usually freely branched from the base, soft-hairy.

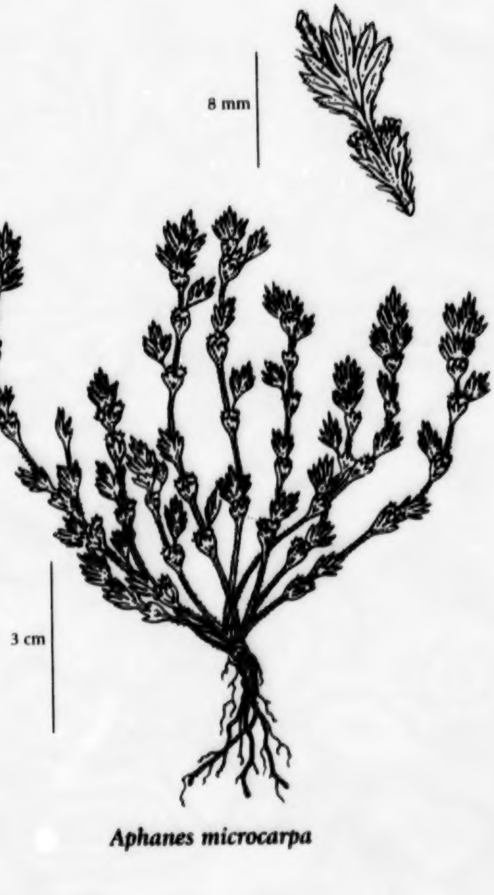
Leaves: Alternate, short-stalked, fan-shaped, the blades 3-5 cm long, sparsely long-hairy on both surfaces, deeply palmately cleft into 3 wedge-shaped segments themselves divided into 3 to 5 oblong lobes; stipules fused into a lobed, leaf-like cup, the lobes of the stipules surrounding the flower clusters oblong and nearly as long as the unlobed portion.

Flowers: Inflorescence of axillary clusters of 5 to 15 tiny, short-stalked flowers, the clusters borne along most of the length of the stem at each node, in the axils of sheathing stipules; corollas lacking; calyces green, urn-shaped, long-hairy, 1-1.5 mm long, 4-lobed, the lobes triangular-egg-shaped, erect, 0.2-0.6 mm long; ovaries superior; stamens usually 1.

Fruits: Achenes, 1, ellipsoid, smooth, about 1 mm long, encased within the dry hypanthium, which has convergent calyx-lobes so that the whole structure appears egg-shaped, this 1.4-1.8 mm long.



Aphanes arvensis



Aphanes microcarpa

ARUNCUS

***Aruncus dioicus* (Walt.) Fern.** (*Aruncus sylvester* Kostel. var. *vulgaris* [Maxim.] Hara)

goat's-beard

HABITAT/RANGE:

Moist to wet ravines, rocky ledges, avalanche tracks, streambanks, forest edges and openings in the lowland and montane zones; common in BC south of 55°N, rare northward; circumboreal, N to AK and S to CA; Eurasia.

DESCRIPTION:

General: Robust perennial herb from stout short-creeping rhizome; stems several, erect to ascending, 1-2 m tall, smooth.

Leaves: Alternate, 10-60 cm long, long-stalked, the lower leaves usually three times compound, the leaflets egg-shaped to narrowly oblong, sharply double-toothed and pointed, 3-15 cm long, the upper leaves smaller and less compounded; green and usually smooth above, hairy and paler below.

Flowers: Inflorescence a large, elongated, terminal panicle with numerous spike-like branches of tiny, short-stalked flowers; male and female flowers on separate plants; corollas white, the petals 5, oblong to egg-shaped, about 1 mm long; calyces 5-toothed, the teeth shorter than the petals; ovaries superior; pistils 3 (4 or 5) in female flowers; stamens 15 to 30 in male flowers.

Fruits: Follicles, bent back, more or less cylindric, somewhat leathery, straw-coloured, smooth, about 3 mm long; seeds 2 to 4 per follicle, about 2 mm long.

CHAMAERHODOS

***Chamaerhodos erecta* (L.) Bunge ssp. *nuttallii* (Pickering *ex* Rydb.) Hult.** (*C. erecta* var. *parviflora* [Nutt.] C.L. Hitchc., *C. nuttallii* Pickering *ex* Rydb.)

American chamaerhodos

HABITAT/RANGE:

Dry, open, sandy or gravelly hillsides and terraces in the steppe and montane zones; rare in BC east of the Coast-Cascade Mountains; amphiberingian, N to YT and S to MN, MI, ND, UT and CO; Asia.

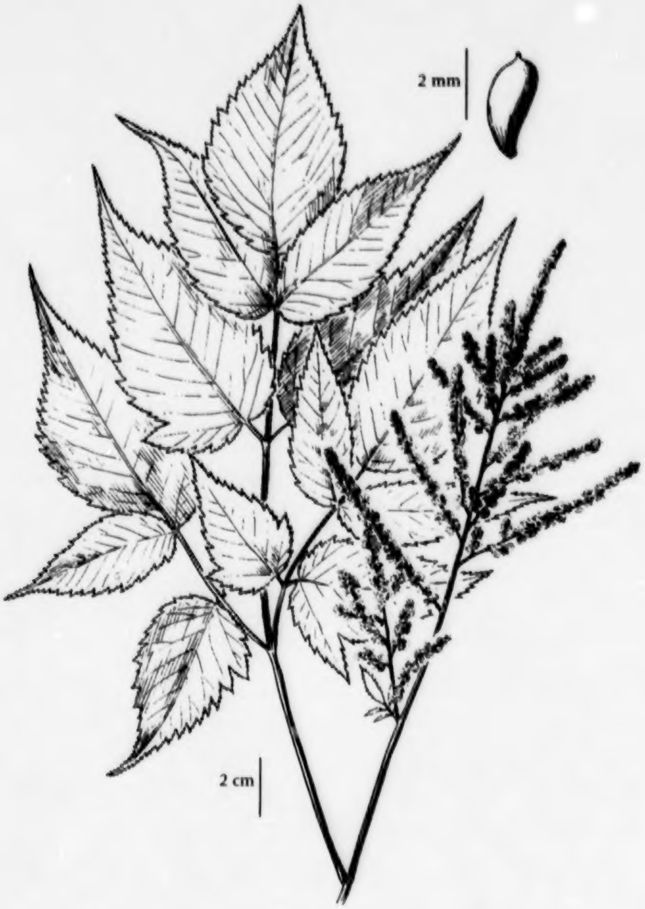
DESCRIPTION:

General: Biennial or short-lived perennial herb from a strong, somewhat woody taproot; stems erect, 8-30 cm tall, 1 to several, branched above, coarse-hairy and glandular-hairy.

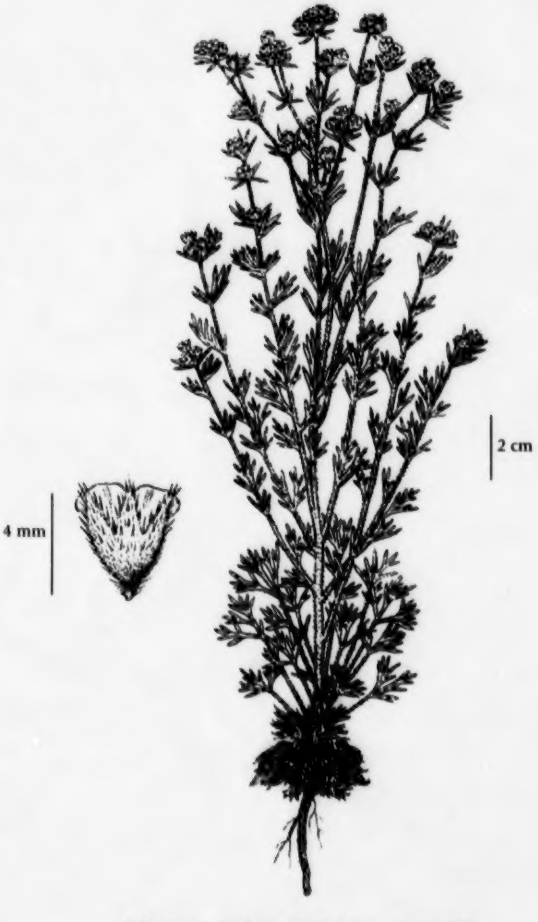
Leaves: Basal leaves in a rosette, 1.5-4 cm long, 2- or 3-times divided in threes into linear or oblong segments, stalked, coarse- and glandular-hairy; stem leaves alternate, similar but smaller, less divided and becoming unstalked.

Flowers: Inflorescence a forking, bracted, somewhat flat-topped, terminal cluster of numerous short-stalked flowers; corollas white, the petals 5, egg-shaped, 1.5-3 mm long; calyces 4-5 mm long, bristly-hairy within, 5-lobed, the lobes narrowly triangular, 1.2-2.5 mm long, scattered shiny-bristly, alternating with bractlets; ovaries superior; stamens 5.

Fruits: Achenes, egg- to pear-shaped, brownish, about 1.5 mm long.



Aruncus dioicus



Chamaerhodos erecta ssp. *nuttallii*

COMARUM

Comarum palustre **L.** (*Potentilla palustris* [L.] Scop.)
marsh cinquefoil
HABITAT/RANGE:

Marshes, fens, bogs, lake margins and wet meadows in the lowland and montane zones; common throughout BC; circumboreal, N to AK, E to NF and S to NJ, WY and N CA; Greenland, Eurasia.

DESCRIPTION:

General: Perennial herb from a long-creeping, often floating, somewhat woody rhizome; stems prostrate to ascending, 20-100 cm long/tall, smooth and frequently reddish below, becoming hairy and glandular above.

Leaves: Alternate, deciduous, lower ones pinnately compound; leaflets 5 to 7, oblong, 2-8 cm long, coarsely saw-toothed, light green and smooth to sparsely hairy above, paler, glaucous and hairy beneath; upper leaves smaller; base of the leaf-stalks and stipules sheathing the stem.

Flowers: Inflorescence a loose terminal cluster of few to several (or many) stalked flowers, the stalks glandular-hairy; corollas reddish-purple, saucer-shaped, about 2 cm across, the petals 5, lance-ovate to elliptic, 3-5 mm long; calyces glandular and hairy, 5-lobed, the lobes lance-egg-shaped, 7-15 mm long, spreading, enlarging and ascending in fruit, alternating with 5 narrower, shorter bractlets; ovaries superior; stamens about 25, purple.

Fruits: Achenes, numerous, plumply egg-shaped, smooth, brownish-purple, about 1.5 mm long.

COTONEASTER[33]

1. Plants low, horizontally spreading, less than 1 m tall; leaves less than 2 cm long; fruits usually borne singly, nearly unstalked .... *C. horizontalis*

1. Plants erect, more than 1 m tall; leaves 2-8 cm long; fruits 2 to many, stalked in flat-topped clusters.

    2. Leaves 4-8 cm long; fruits dark red, borne in clusters of 3 to 7 .... *C. bullatus*

    2. Leaves 2-3 cm long; fruits orange-red, borne in clusters of 2 to 4 .... *C. simonsii*

Cotoneaster bullatus **Bois.**
puckered-leaf cotoneaster
HABITAT/RANGE:

Moist edges of forests and disturbed places in the lowland zone; rare on the lower mainland; introduced from Asia.

DESCRIPTION:

General: Medium shrub, to 1.5 m tall; stems spreading, the twigs hairy.

Leaves: Alternate, deciduous, egg-shaped to elliptic, 4-8 cm long, entire, long-tapering to pointed tips, nearly smooth above, usually hairy beneath especially on the veins, wrinkled or puckered.

Flowers: Inflorescences short, small, axillary clusters of 3 to 7 short-stalked flowers; corollas pinkish, the petals 5; calyces smooth, the 5 lobes triangular; ovaries inferior; stamens about 20.

Fruits: Berry-like pomes (like miniature apples), egg- to globe-shaped, about 1 cm long, red; stones (nutlets) 4 to 5.

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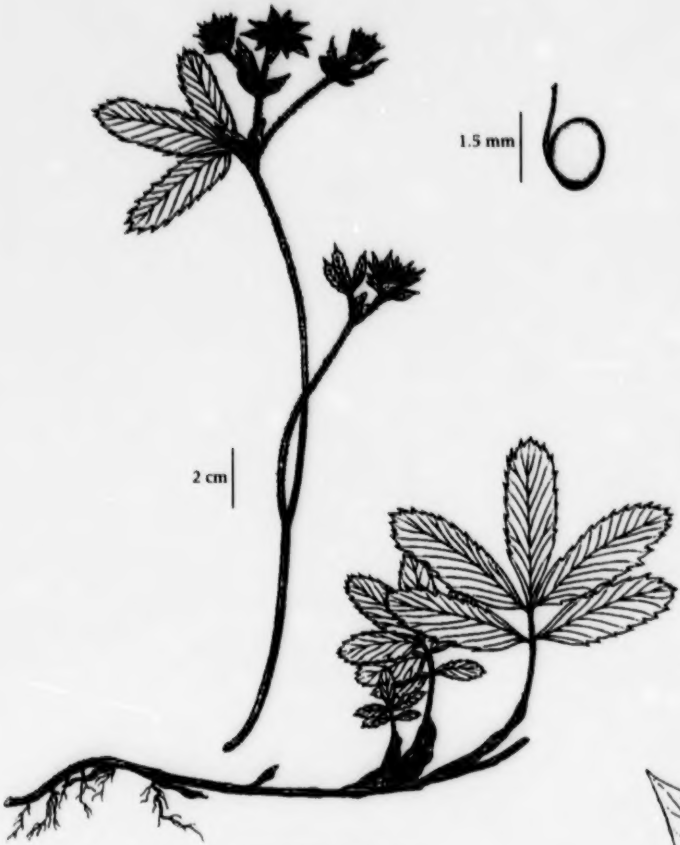
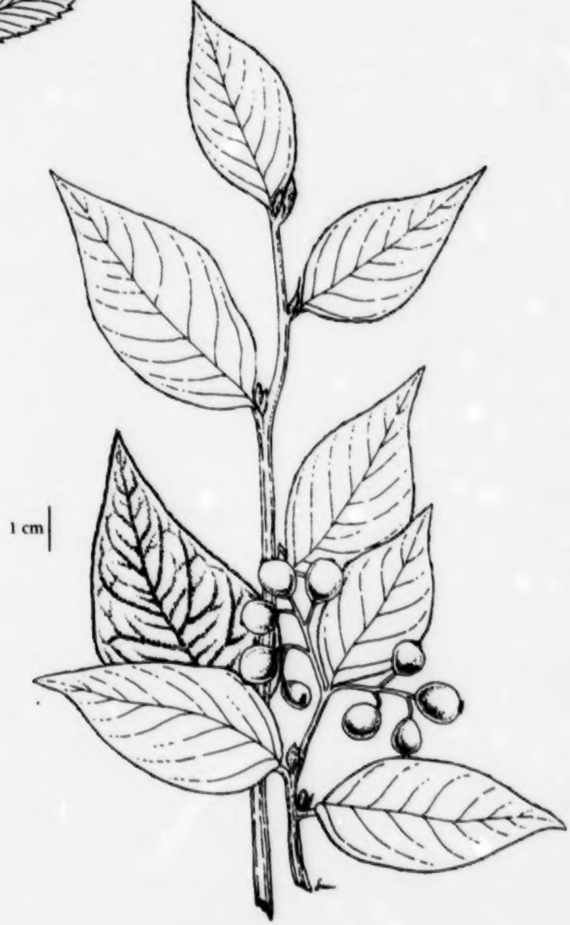
[33] Several other Cotoneaster species are commonly cultivated as ornamentals in gardens, especially in SW BC. Some of these may be expected as escapes in our flora from time to time.



Comarum palustre



Cotoneaster bullatus

Cotoneaster horizontalis **Decaisne**

rock cotoneaster

HABITAT/RANGE:

Dry to mesic waste places or open forests in the lowland zone; rare garden escape on S Vancouver Island, the Gulf Islands and the lower Fraser Valley; introduced from Asia.

DESCRIPTION:

General: Low shrub, less than 0.5 m tall; stems spreading, the branches stiff, straight, on a horizontal plane; twigs brown-woolly.

Leaves: Alternate, deciduous or semi-evergreen, egg-shaped to nearly circular, 1-1.5 cm long, entire, abruptly pointed at the tip, dark green, shining and mostly smooth above, paler and sparsely hairy below.

Flowers: Inflorescences of solitary (sometimes paired), axillary, nearly unstalked flowers; corollas pink, the petals 5, erect; calyces hairy, the 5 lobes triangular; ovaries inferior; stamens about 20.

Fruits: Berry-like pomes (like miniature apples), egg- to globe-shaped, about 0.5 cm long, red; stones (nutlets) usually 3.

Cotoneaster simonsii **Bak.**

Himalayan cotoneaster; Simons' cotoneaster

HABITAT/RANGE:

Moist edges of forests and disturbed places in the lowland zone; rare on the lower mainland; introduced from Asia.

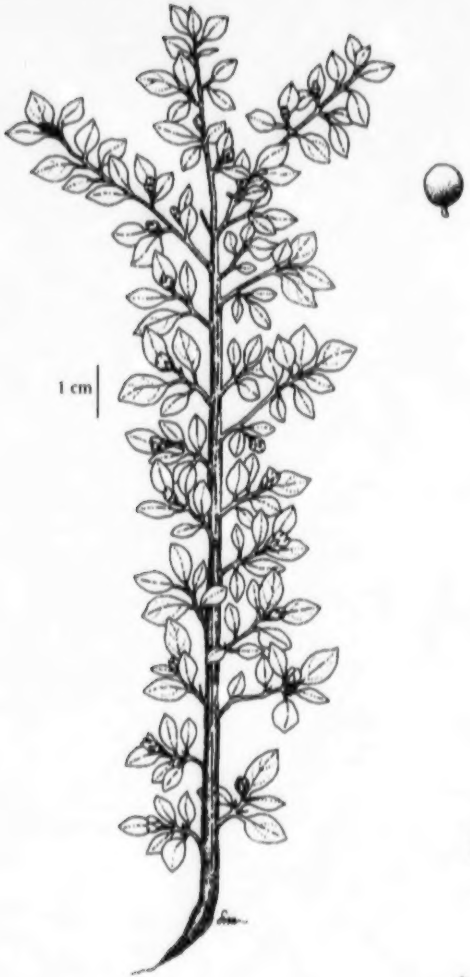
DESCRIPTION:

General: Medium to tall shrub, ascending to erect, 1-4 m tall; twigs appressed-hairy.

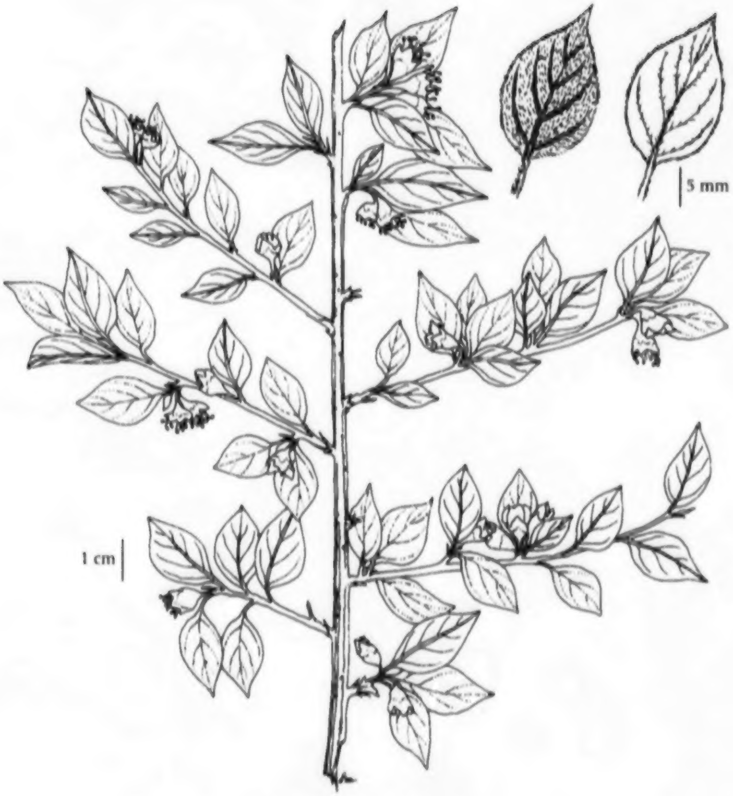
Leaves: Alternate, deciduous or semi-evergreen, somewhat leathery, egg-shaped to broadly elliptic, 2-3 cm long, entire, pointed at the tip, dark green and nearly smooth above, paler and sparsely hairy below; stalks 2-4 mm long.

Flowers: Inflorescences short, small, axillary clusters of 2 to 4 short-stalked flowers; corollas white with red markings or pinkish, the petals 5, erect; calyces appressed-hairy, the 5 lobes triangular; ovaries inferior; stamens about 20.

Fruits: Berry-like pomes (like miniature apples), egg-shaped, about 8 mm long, orange-red; stones (nutlets) 2 to 5.



Cotoneaster horizontalis



Cotoneaster simonsii

CRATAEGUS[34]

1. Leaves deeply lobed, with sinuses reaching more than halfway to midrib; veins of leaves extending to sinuses as well as to points of lobes; style 1 .... *C. monogyna*

1. Leaves shallowly lobed; veins of leaves not extending to sinuses, only to points of lobes; styles 2 to 5.

   2. Styles usually 5; thorns stout, 3 cm long or less; fruits black .... *C. douglasii*

   2. Styles usually 2 to 4; thorns slender, more than 3 cm long; fruits red .... *C. columbiana*

Crataegus columbiana **Howell**

red hawthorn; Columbia hawthorn

HABITAT/RANGE:

Moist to mesic meadows, thickets, gullies, streambanks and edges of forests in the steppe and montane zones; infrequent in BC, east of the Coast-Cascade Mountains and S of 57°N; E to AB and S to OR, ID and MT.

DESCRIPTION:

General: Medium to tall shrub, 1-4 m tall, much-branched, with slender, straight or curved, axillary thorns 3-7 cm long; bark reddish.

Leaves: Alternate, deciduous, narrowly egg-shaped to nearly round, 2.5-7 cm long, 1- or 2-times coarsely toothed, slightly lobed, usually hairy on both surfaces.

Flowers: Inflorescences short, flat-topped to rounded, axillary or terminal clusters; flowers several to many, about 1.5 cm across, stalked, the stalks woolly; corollas white, the petals 5, broadly egg-shaped, 5-8 mm long; calyces 5-lobed, the lobes lanceolate, 3-5 mm long, hairy, minutely glandular-toothed; ovaries inferior, hairy, the styles 2 to 4 (5); stamens 10.

Fruits: Berry-like pomes (like miniature apples), egg-shaped, about 1 cm long, purplish-red, hairy or smooth; stones (nutlets) 2 to 5, 1-seeded.

Crataegus douglasii **Lindl.** (*C. suksdorfii* [Sarg.] Kruschke)

black hawthorn

HABITAT/RANGE:

Moist to mesic, open rocky slopes, bluffs, streambanks, lakeshores, gullies, thickets, edges of forests in the lowland to montane zones; frequent in S BC north to 56° N; N to S AK, E to ON and S to SD, WY and CA.

DESCRIPTION:

General: Medium to tall shrub 1-7 m tall, with stout, straight thorns 1-2 (3) cm long; bark grey or brownish, rough and scaly.

Leaves: Alternate, deciduous, egg-shaped to oval, 3-6 cm long, irregularly toothed, the top end often with 5 to 9 shallow lobes, somewhat thick and leathery, dark green above, paler below, nearly smooth to hairy.

Flowers: Inflorescences short, terminal or axillary clusters; flowers several to many, stalked, 1-1.5 cm across; corollas white, the petals 5, nearly circular, 4-7 mm long; calyces 5-lobed, the lobes triangular, somewhat long-hairy toward the tip; ovaries inferior, smooth to short-curly-hairy, the styles usually 5; stamens 10 to 20.

Fruits: Berry-like pomes (like miniature apples), globe- to egg-shaped, about 1 cm long, blackish-purple, smooth; stones (nutlets) 2 to 5, 1-seeded.

Notes: Two varieties occur in BC:

1. Flowers mostly with 10 stamens; ovaries often hairy; leaves often weakly lobed above the middle as well as saw-toothed; plants from largely east of the Coast-Cascade Mtns., the common variety .... var. *douglasii*

1. Flowers mostly with 20 stamens; ovaries usually smooth; leaves merely 1- to 2-times saw-toothed; plants from west of the Cascade Mtns. .... var. *suksdorfii* Sarg.

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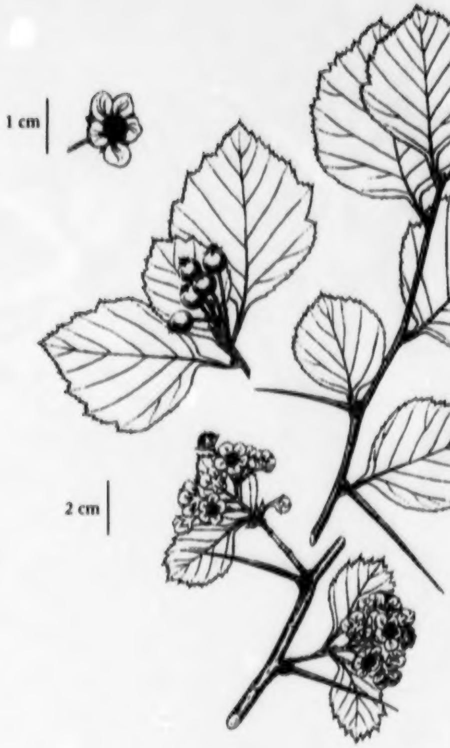
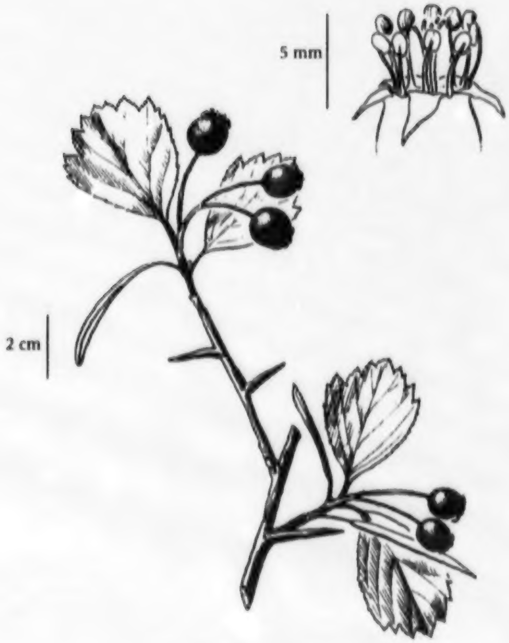
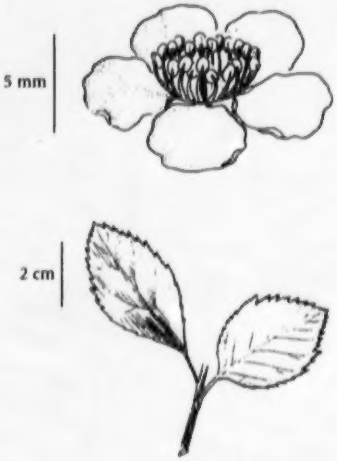
[34] See Phipps (1998) for a different, rather recondite treatment.



Crataegus columbiana





var. *suksdorfii*

Crataegus douglasii var. *douglasii*

Crataegus monogyna **Jacq.**

common hawthorn

HABITAT/RANGE:

Moist to mesic disturbed places, thickets, forest margins and open forests in the lowland zone; infrequent in SW BC, rare inland and north along the coast; introduced from Europe.

DESCRIPTION:

General: Large shrub or small tree 2-10 m tall, with short stout thorns about 1 cm long; twigs greyish to reddish-brown, smooth; bark dark grey-brown, scaly.

Leaves: Alternate, deciduous, long-stalked, smooth except for patches of hairs on the veins beneath, egg-shaped in outline, the blades 1.5-3.5 cm long, deeply 3- to 7-lobed, the lobes usually reaching more than halfway to the midrib, few-toothed, the veins running to the sinuses as well as to the tips of the lobes.

Flowers: Inflorescences short, dense, somewhat flat-topped, axillary or terminal clusters; flowers several to 15, stalked, about 1 cm across; corollas white, the petals 5, nearly circular, 4-6 mm long; calyces 5-lobed, the lobes lance-triangular; ovaries inferior, woolly, the styles 1; stamens 20.

Fruits: Berry-like pomes (like miniature apples), globe- to egg-shaped, 8-10 mm long, deep red; stones (nutlets) 1, 1-seeded.

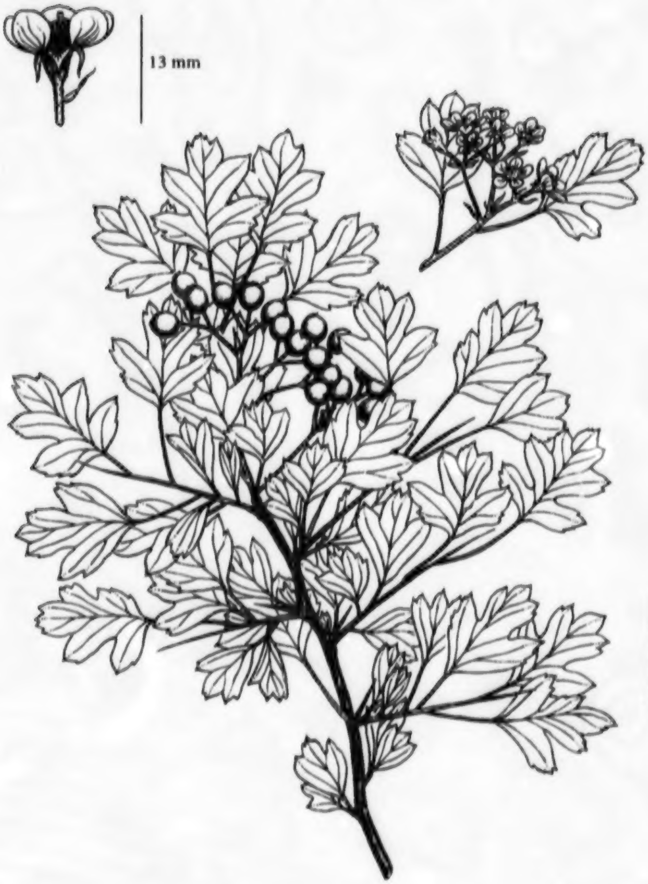
DRYAS

1. Petals yellow; calyx-lobes broadly egg-shaped; filaments hairy toward base; leaf-bases wedge-shaped, tapered to the stalk .... *D. drummondii*

1. Petals white; calyx-lobes narrowly lanceolate to lance-oblong; filaments smooth; leaf-bases squared-off to heart-shaped.

    2. Leaf margins usually entire; midvein of underside of leaves without glands; leaves broadest below middle, upper surface not wrinkled .... *D. integrifolia*

    2. Leaf margins usually uniformly blunt-toothed; midvein of underside of leaves with stalked brown glands; leaves broadest toward middle, upper surface wrinkled .... *D. octopetala*



Crataegus monogyna

Dryas drummondii **Richards. *ex* Hook.**

yellow mountain-avens

HABITAT/RANGE:

Moist to mesic, often calcium-rich river bars, raw glacial moraines, scree slopes, ridgecrests and gravelly roadsides in the lowland to alpine zones; common to locally frequent (except for var. *eglandulosa*, which is infrequent) throughout BC east of the Coast-Cascade Mountains, rare W of; N to AK and NT, S to OR and E to NF.

DESCRIPTION:

General: Low prostrate shrub from a long woody stem-base; stems trailing, freely branching and rooting, mat-forming, often forming large colonies.

Leaves: Alternate, evergreen, the leaf blades elliptic to oblong-egg-shaped, 1-4 cm long, broadest above the middle, blunt to rounded at the tip, wedge-shaped at the stalked base, the margins coarsely round-toothed and often rolled under; wrinkled, dark green and smooth above, densely white woolly-hairy below; dead leaves withering but the remains persisting.

Flowers: Usually solitary, nodding on leafless, woolly-hairy, 5- to 25-cm tall stalks; corollas yellow, never fully expanding, the petals 8 to 10, elliptic to egg-shaped, ascending, 8-12 mm long; calyces usually densely covered with black, gland-tipped hairs, sometimes long-silky-hairy, the 8 to 10 lobes broadly egg-shaped, 4-8 mm long; ovaries superior; stamens numerous, the filaments hairy toward the base.

Fruits: Numerous achenes, each tipped by the persistent, golden-yellow, silky-feathery style, which twists around others when immature and in damp weather; the whole later opens to a fluffy mass.

Notes: Three varieties occur in BC:

1. Calyces densely silky-hairy .... var. *eglandulosa* Pors.
1. Calyces densely stalked-glandular.
    2. Leaves smooth and dark green above .... var. *drummondii*
    2. Leaves finely woolly-hairy and white above .... var. *tomentosa* (Farr) Williams

Dryas integrifolia **Vahl**

entire-leaved mountain-avens; entire-leaved white mountain-avens

HABITAT/RANGE:

Dry to moist tundra, heath, rocky ridges, talus slopes and gravel bars in the montane to alpine zones, frequent in N BC, S to 55°N; N to AK and NT, E to NF and S to NH; Greenland.

DESCRIPTION:

General: Prostrate shrub from a woody stem-base; stems trailing, freely branching and rooting, densely tufted to mat-forming.

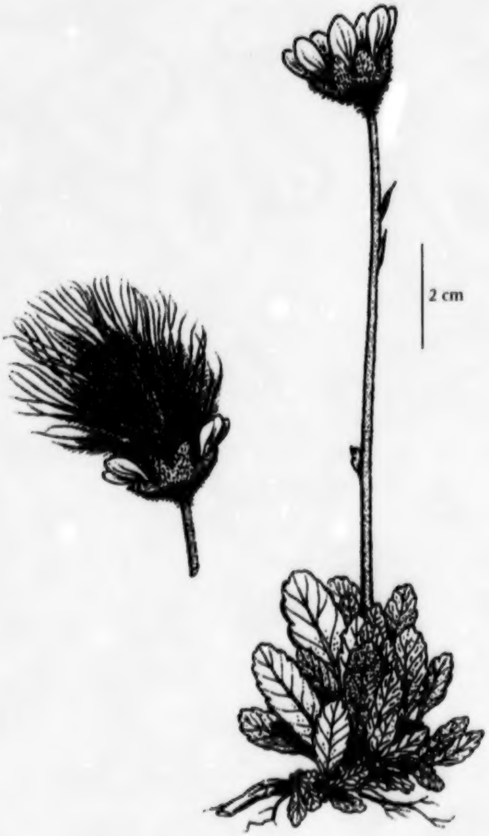
Leaves: Alternate, evergreen, the leaf blades narrowly oblong to lanceolate, 0.8-3 cm long, broadest below the middle, blunt to rounded at the tip, squared-off to heart-shaped at the stalked base; the margins entire or with a few teeth on the lower half, often rolled under; slightly wrinkled to smooth, green and usually smooth above, thinly to densely white woolly-hairy below; midvein not stalked-glandular below; dead leaves withering but the remains persisting.

Flowers: Solitary, erect on leafless, woolly-hairy, 2- to 15-cm tall stalks; corollas white, 2-3 cm across, the petals 8 to 10, elliptic, spreading, 8-13 mm long; calyces sparsely woolly and with some black, gland-tipped hairs, the 8 to 10 lobes narrowly lanceolate, 4-8 mm long; ovaries superior; stamens numerous, the filaments smooth.

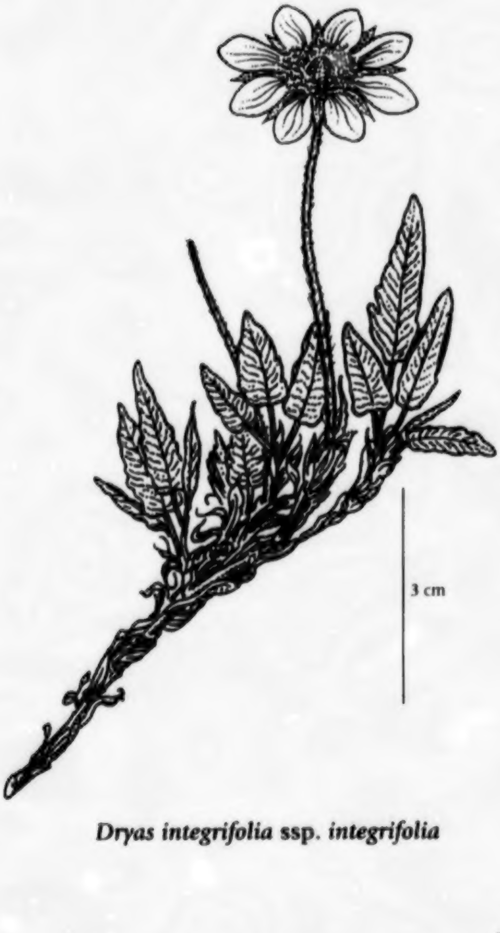
Fruits: Numerous achenes with long (to 4 cm), feathery styles.

Notes: Hybrids between this species and *Dryas octopetala* can occur where the two species grow together. Two subspecies with overlapping ranges occur in BC:

1. Leaf bases wedge-shaped to squared-off; blades flat .... ssp. *sylvatica* (Hult.) Hult.
1. Leaf bases heart-shaped to squared-off; blades with rolled-under margins .... ssp. *integrifolia*



Dryas drummondii **var** ***drummondii***



Dryas integrifolia **ssp.** ***integrifolia***

***Dryas octopetala* L.** (*Dryas hookeriana* Juz. = ssp. *hookeriana*)

white mountain-avens

HABITAT/RANGE:

Dry to mesic gravelly slopes and ridgecrests, rocky tundra and heath in the alpine zone; ssp. *alaskensis* is rare in C BC while the ssp. *octopetala* and ssp. *hookeriana* are infrequent in S BC but more common northward; circumboreal, N to AK, YT and NT, S to OR and CO and E to NF.

DESCRIPTION:

General: Prostrate shrub from a woody stem-base; stems trailing, freely branching and rooting, forming dense mats.

Leaves: Alternate, evergreen, the leaf blades oblong-egg-shaped to linear-lanceolate, 0.8-4 cm long, broadest near the middle, blunt to rounded at the tip, rounded to squared-off or somewhat heart-shaped at the stalked base; the margins coarsely blunt-toothed, rolled under; strongly wrinkled, green and mostly smooth but often warty-glandular above, densely white woolly-hairy (rarely nearly smooth) below; midvein below with gland-tipped brown hairs and/or brown scales with long much-branched white hairs; dead leaves withering but the remains persisting.

Flowers: Solitary, erect on leafless, 5- to 20-cm tall stalks, the stalks more or less woolly and also stalked-glandular above; corollas white, 2-3 cm across, the petals 8 to 10, oblong to elliptic, spreading, 8-17 mm long; calyces white-woolly and with some black, glandular hairs, the 8 to 10 lobes oblong-lanceolate, 4-8 mm long; ovaries superior; stamens numerous, the filaments smooth.

Fruits: Achenes, numerous, about 3 mm long, with long (to 3 or 4 cm), feathery styles.

Notes: Hybrids between this species and *Dryas integrifolia* can occur where the two species grow together. Three subspecies occur in BC:

1. Midvein of underside of leaves with both gland-tipped hairs and white-hairy scales; upper leaf surfaces lacking sticky, unstalked wart-like glands .... ssp. *octopetala*

1. Midvein of underside of leaves stalked-glandular but lacking hairy scales; upper leaf surfaces with sticky, unstalked, wart-like glands.

  2. Leaves linear to oblong, broadest above the middle; nearly smooth to thinly woolly beneath .... ssp. *alaskensis* (Pors.) Hult.

  2. Leaves egg-shaped, broadest near or below middle; densely white-woolly beneath .... ssp. *hookeriana* (Juz.) Hult.

DUCHESNEA

***Duchesnea indica* (Andr.) Focke**

Indian strawberry; false strawberry

HABITAT/RANGE:

Moist open forests and waste places in the lowland zone; rare in SW BC; introduced from Asia.

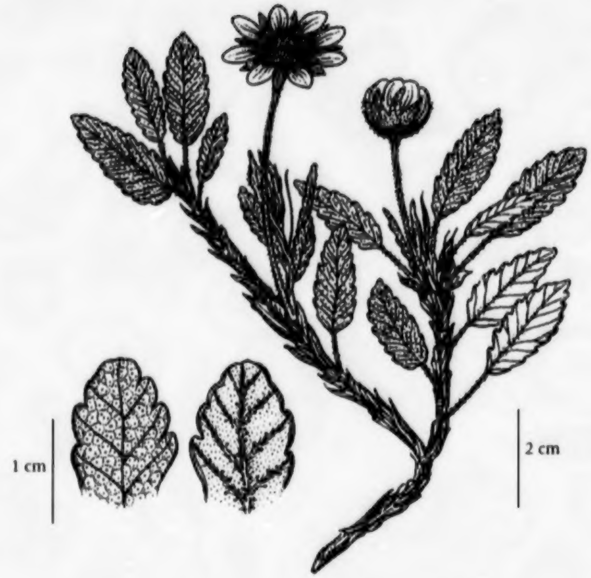
DESCRIPTION:

General: Perennial, strawberry-like herb from fibrous root and short rhizome, with long slender stolons; stems trailing, freely rooting at the nodes, with coarse to silky, appressed hairs.

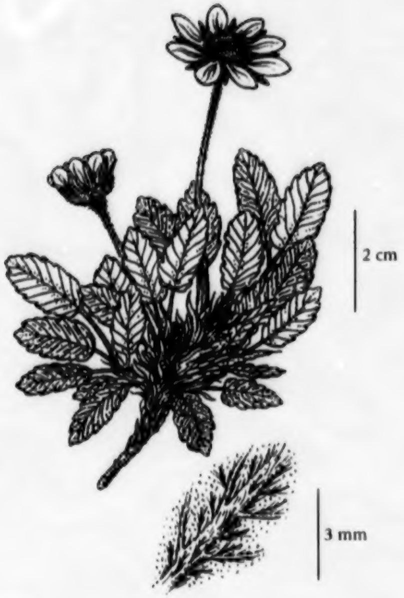
Leaves: Basal in rosettes and alternate on the stolons, long-stalked, palmately compound; leaflets 3, elliptic-egg-shaped, 2-4 cm long, coarse-toothed.

Flowers: Single on long (2-12 cm) stalks from the leaf axils; corollas yellow, the petals 5, oblong-egg-shaped, 3-7 mm long, soon deciduous; calyces 4-10 mm long, 5-lobed, the lobes alternating with 3- (to 5)-toothed, much longer bractlets; ovaries superior; stamens 20 to 25.

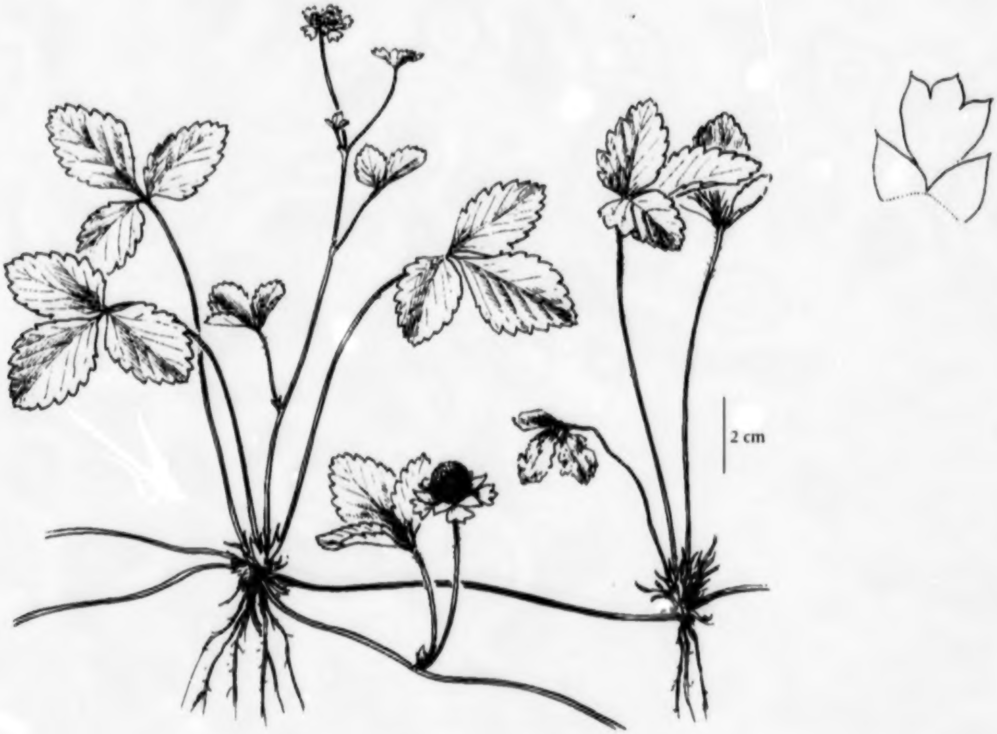
Fruits: Strawberry-like, the receptacle enlarged, red, globe-shaped, about 1 cm in diameter, pithy, tasteless, covered with achenes; achenes numerous, reddish, 1-1.5 mm long.



Dryas octopetala ssp. *hookeriana*



Dryas octopetala ssp. *octopetala*



Duchesnea indica

FRAGARIA

1. Leaves thick, strongly veined beneath, wrinkled above; plants strictly maritime .... *F. chiloensis*

1. Leaves thin, not strongly veined beneath, not wrinkled above; plants generally distributed.

    2. Terminal tooth of leaflets usually surpassing the adjacent lateral ones; leaflets generally unstalked; fruiting shoots longer than the leaves .... *F. vesca*

    2. Terminal tooth of leaflets usually much narrower and shorter than adjacent lateral ones; leaflets short-stalked; fruiting shoots shorter than the leaves .... *F. virginiana*

Fragaria chiloensis **(L.) Duchesne**

coastal strawberry; Pacific coast strawberry

HABITAT/RANGE:

Dry to mesic sand dunes and rocky coastal bluffs, just above high tide, in the lowland zone; frequent in coastal BC; N to AK and S to CA; disjunct to South America.

DESCRIPTION:

General: Perennial herb from a fibrous root and short, thick rhizome, with short, leafless runners; stems trailing, rooting at the nodes; runners, leaf stalks and flower shoots silky-long-hairy and reddish.

Leaves: Basal in rosettes, palmately compound, on stalks 4-20 cm long; leaflets 3, egg-shaped, short-stalked, 1.5-4 cm long, thick, leathery, the lower surface strongly net-veined, pale and somewhat hairy, the upper surface green, smooth and wrinkled, the margins coarsely toothed with the terminal tooth shorter than its neighbours.

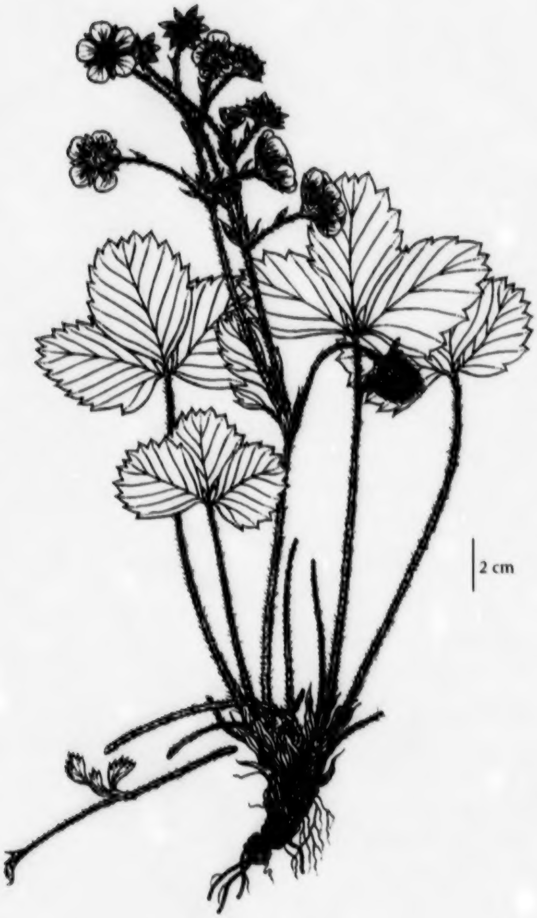
Flowers: Inflorescence an open cluster of 5 to 15 (20) stalked flowers atop axillary, leafless shoots 3-15 cm long, shorter than to slightly exceeding the leaves; corollas white, 2-4 cm across, the petals 5, egg-shaped to round, 8-16 mm long; calyces silky-hairy, 5-lobed, the lobes (sepals) lanceolate, 6-10 mm long, alternating with elliptic bractlets that are almost as long as the sepals; ovaries superior; stamens about 20.

Fruits: Strawberries, hemispheric, 1-1.5 cm in diameter, hairy, covered with achenes; achenes about 2 mm long, slightly immersed in the fleshy receptacle.

Notes: The garden strawberry, *Fragaria x ananassa* Duchesne (a complex group of hybrids involving *F. chiloensis* and *F. virginiana*) is sometimes found as a garden escape in SW BC. Plants intermediate to *F. chiloensis* or *F. virginiana* have been called *F. crinita* Rydb. Two sympatric subspecies occur in BC:

1. Hairs on stems and leaf-stalks appressed .... ssp. *lucida* (Vilm.) Staudt

1. Hairs on stems and leaf-stalks spreading .... ssp. *pacifica* Staudt



Fragaria chiloensis ssp. *pacifica*

***Fragaria vesca* L.** (*F. americana* [Porter] Britt. var. *americana*, *F. bracteata* Heller var. *bracteata*)
wood strawberry; woodland strawberry

HABITAT/RANGE:

Dry to moist open forests, sandy fields, clearings and meadows in the lowland to subalpine zones; common in S BC south of 53°N, rare northward; N to NT, E to NF and S to CA, NM, MO and VA.

DESCRIPTION:

General: Perennial herb from a fibrous root and short, thick rhizome, with long, leafless runners; stems trailing, rooting at the nodes; runners, leaf stalks and flower shoots greenish or very lightly tinged with reddish purple, lightly to densely hairy.

Leaves: Basal in rosettes, palmately compound, on stalks 3-12 cm long; leaflets 3, elliptic to egg-shaped, more or less unstalked, 1-3 cm long, the lower surface pale and fine-hairy underneath, the upper surface yellow-green and nearly smooth, the margins strongly toothed with the terminal tooth projecting beyond the adjacent lateral ones.

Flowers: Inflorescence an open cluster of 3 to 15 stalked flowers atop axillary, leafless, shoots that are usually longer than the leaves at maturity; corollas white, the petals 5, egg-shaped, 5-10 mm long; calyces silky-hairy, 5-lobed, the lobes (sepals) 4-5 mm long, alternating with narrowly elliptic bractlets about as long as the sepals; ovaries superior; stamens about 20.

Fruits: Strawberries, hemispheric, about 1 cm wide, covered with achenes; achenes 1.3 mm long, partly sunken in the fleshy receptacle.

Notes: Two varieties with overlapping ranges occur in BC:

1. Flowers to 1.5 cm across; achenes not sunken; leaf-stalks with appressed-ascending hairs; flower-shoots rarely with a leafy bract below inflorescence .... var. *americana* Porter

1. Flowers to 2 cm across; achenes in shallow pits; leaf-stalks with spreading or reflexed hairs; flower-shoots commonly with a leafy bract below inflorescence .... var. *bracteata* (Heller) R.J. Davis

***Fragaria virginiana* Duchesne**
wild strawberry

HABITAT/RANGE:

Moist to dry fields, roadsides, meadows, grassy slopes, thickets, forest edges and open forests in the lowland to subalpine zones; common throughout BC; N to AK and NT, E to NF and S to CA, CO, TN and GA.

DESCRIPTION:

General: Perennial herb from a fibrous root and short rhizome usually from a single crown, with several leafless runners; stems trailing, rooting at the nodes; runners, leaf stalks and flower shoots with long spreading to appressed hairs and usually greenish not reddish-tinged.

Leaves: Basal in rosettes, palmately compound, on stalks 2-15 cm long; leaflets 3, egg-shaped, short-stalked, 2-7 cm long, the lower surface smooth to silky-hairy, the upper surface smooth and glaucous bluish-green, the margins coarsely toothed, the terminal tooth less than 1/2 as wide as and shorter than the adjacent teeth.

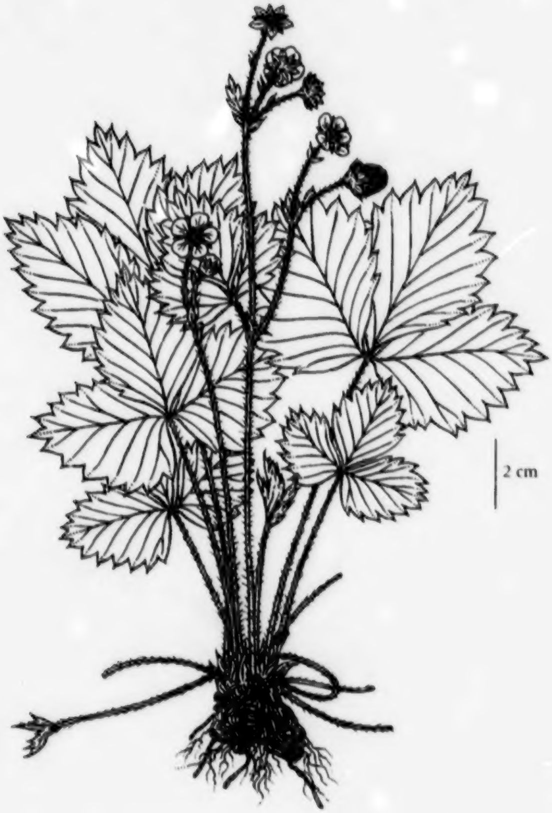
Flowers: Inflorescence an open cluster of 2 to 15 stalked flowers atop axillary, leafless shoots that are usually shorter than the surrounding leaves at maturity; corollas white, the petals 5, egg-shaped to round, 4-9 (12) mm long; calyces long-silky-hairy, 5-lobed, the lobes (sepals) lance-elliptic, 3-7 mm long, alternating with lanceolate bractlets that are shorter than the sepals; ovaries superior; stamens about 20.

Fruits: Strawberries, hemispheric, about 1 cm wide, covered with achenes; achenes about 1.5 mm long, partly sunken in the fleshy receptacle.

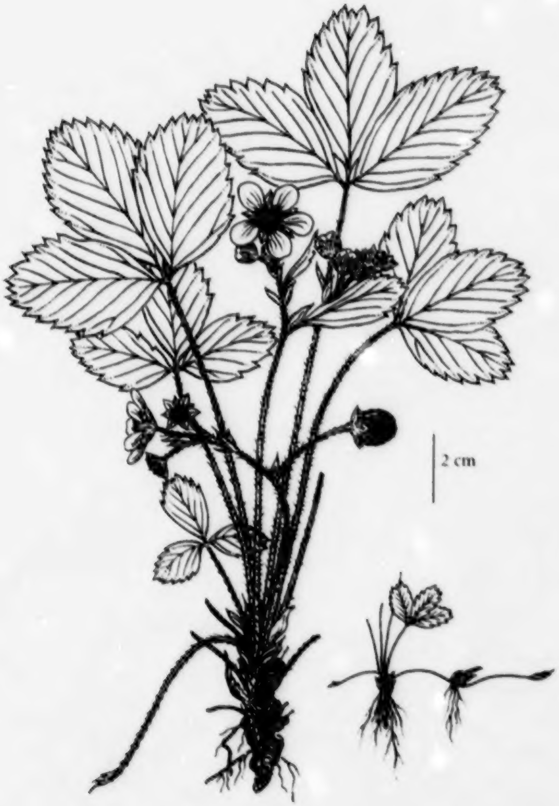
Notes: Two varieties with overlapping ranges occur in BC:

1. Leaf-stalks and flower-shoots with appressed hairs; petals mostly 4-10 mm long, narrowly egg-shaped .... var. *glauca* S. Wats.

1. Leaf-stalks and flower-shoots with spreading hairs; petals mostly 8-12 mm long, nearly circular .... var. *platypetala* (Rydb.) Hall



Fragaria vesca var. *bracteata*



Fragaria virginiana var. *platypetala*

GEUM

1. Styles jointed at or above the middle, the terminal portion deciduous, the basal portion persistent, hooked.

  2. Flowers nodding; sepals purple or reddish, spreading or ascending; petals erect or spreading .... *G. rivale*

  2. Flowers erect; sepals green, bent back; petals spreading.

    3. Terminal segment of lower leaves many times larger than the main lateral lobes, rounded or somewhat heart-shaped at base; persistent portion of styles sparsely glandular-hairy .... *G. macrophyllum*

    3. Terminal segment of lower leaves somewhat larger than the main lateral lobes, wedge-shaped at base; persistent portion of styles not glandular, although sometimes hairy .... *G. aleppicum*

1. Styles not jointed or deciduous.

  4. Petals erect to convergent; flowers vase-shaped; stem leaves two or four, opposite, with sheathing bases .... *G. triflorum*

  4. Petals spreading; flowers saucer-shaped; stem leaves one to several, alternate, bases not sheathing.

    5. Basal leaves elliptic-oblong, pinnately cleft, the terminal segment no larger than the others; styles not conspicuously exserted from calyx in fruit .... *G. rossii*

    5. Basal leaves pinnately cleft, the terminal segment much larger than the others; styles conspicuously exserted from calyx in fruit.

      6. Terminal leaf segments kidney-shaped to circular, never deeply lobed; lateral segments few, much reduced; stem-base woody and covered with rusty-hairy scales .... *G. calthifolium*

      6. Terminal leaf segments egg-shaped and usually 3-lobed or cleft; lateral segments many, well developed; stem-base woody and covered with coarse fibres .... *G. schofieldii*

Geum aleppicum **Jacq.**

yellow avens

HABITAT/RANGE:

Moist woods, thickets and meadows in the lowland and montane zones; frequent throughout BC east of the Coast-Cascade Mountains, rare on S Vancouver Island; circumboreal, E to NF and S to CA, NB and PA; Eurasia.

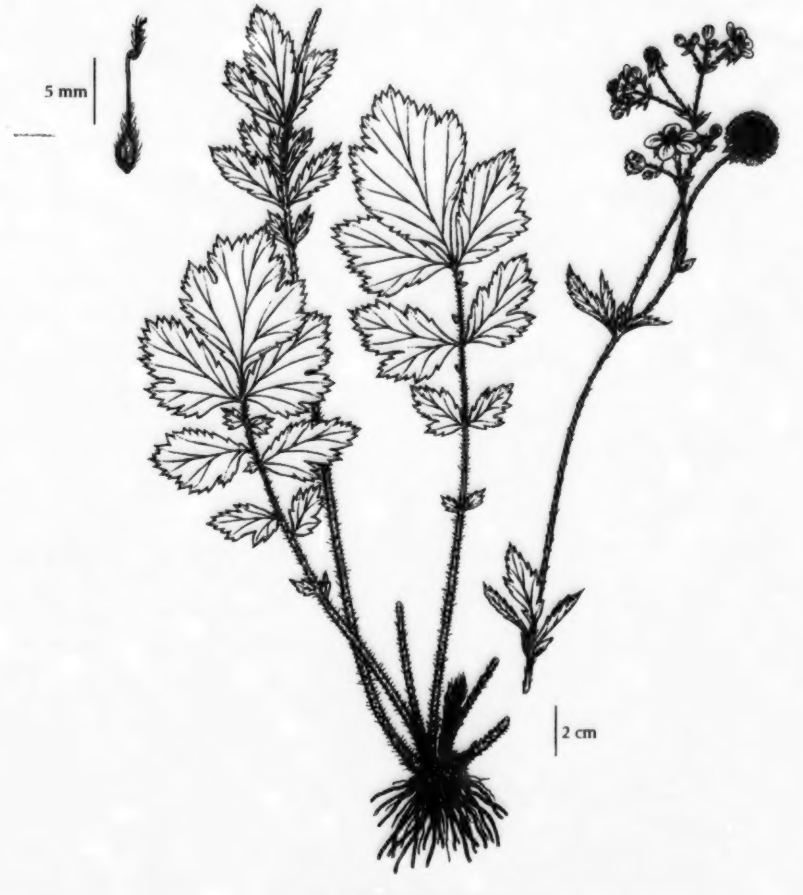
DESCRIPTION:

General: Perennial herb from a stout rhizome; stems erect, 30-100 cm tall, simple, 1 to several, tufted, coarse-hairy.

Leaves: Basal leaves several, long-stalked, interruptedly pinnately cleft, 10-25 (40) cm long, hairy along the veins beneath, with 5 to 9 cleft and double-toothed segments, egg-shaped with a wedge-shaped base, and a few interspersed much smaller segments, the terminal segment cleft over half its length, a bit larger than the main lateral segments; stem leaves alternate, 3 to 5, short-stalked to unstalked, smaller and with fewer segments.

Flowers: Inflorescence an open, bracted, terminal cluster of 3 to 10 stalked flowers; corollas yellow, wheel-shaped, the petals 5, egg-shaped, unnotched, 4-9 mm long; calyces 5-lobed, the lobes lanceolate, reflexed, nearly as long as the petals, alternating with narrowly lanceolate bractlets 1.5-3 mm long; ovaries superior; stamens numerous.

Fruits: Achenes, numerous, spreading, in globe-shaped heads; achenes ellipsoid, flattened, 3-5 mm long, coarse-hairy above, beaked with the 5- to 6-mm-long persistent style, which has an S-shaped kink near the tip and is hairy on the ultimately deciduous segment above the kink.



Geum aleppicum

Geum *calthifolium* Menzies *ex* J.M. Smith

caltha-leaved avens

HABITAT/RANGE:

Bogs, wet rocky slopes and meadows in the lowland to alpine zones; infrequent on the coastal islands and adjacent mainland; amphiberingian, N to AK; E Asia.

DESCRIPTION:

General: Perennial herb from a branching rhizome and stout stem-base covered with reddish-brown-hairy scales; stems erect, 10-30 cm tall, yellowish-spreading-hairy.

Leaves: Basal leaves long-stalked, 4-25 cm long, hairy along the veins below, simple or with a few tiny segments below the greatly enlarged terminal segment, the terminal segment kidney-shaped to circular, coarsely and irregularly toothed, 2-6 cm long, 3-10 cm wide, heart-shaped at the base, rounded at the tip; stem leaves unstalked, coarsely blunt-toothed and lobed.

Flowers: Inflorescence of 1 to few, hairy-stalked, terminal flowers; corollas yellow, saucer-shaped, the petals 5, heart-shaped, notched at the tip, 8-12 mm; calyces densely hairy, 5-lobed, the lobes lanceolate, from 1/2 as long as to equalling the petals, alternating with lanceolate bractlets 2-6 mm long; ovaries superior; stamens numerous.

Fruits: Achenes, numerous, erect, in clusters; achenes bristly-hairy, beaked with long (to 1.5 cm), straight, long-hairy style.

***Geum macrophyllum* Willd.** (*G. macrophyllum* var. *rydbergii* Farw. and *G. perincisum* Rydb. = ssp. *perincisum*)

large-leaved avens

HABITAT/RANGE:

Moist meadows, fields, clearings, roadsides, streambanks and open forests in the lowland to montane zones; common throughout BC, except in driest parts of interior; amphiberingian, N to AK and NT, E to ON and S to MX; E Asia.

DESCRIPTION:

General: Perennial herb from a short rhizome and stout stem-base, stems erect, 30-100 cm tall, simple, 1 to several, coarse-spreading-hairy.

Leaves: Basal leaves several, long-stalked, interruptedly pinnately cleft, 10-40 cm long, hairy along the veins beneath, with mostly 5 to 9 main segments, egg-shaped and blunt-toothed, interspersed with several much smaller segments, the terminal segment heart- to kidney-shaped, 3-10 cm long, 3-15 cm wide, many times larger than the several lateral leaflets below, coarsely blunt-toothed and often deeply 3-lobed, rounded or squared-off to heart-shaped at the base; stem leaves alternate, 2 to 5, smaller, unstalked or nearly so, deeply 3-lobed or 3-parted.

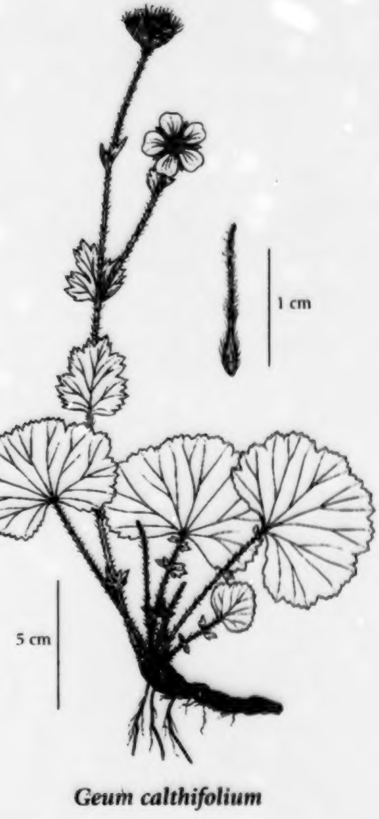
Flowers: Inflorescence an open, bracted terminal cluster of several stalked flowers; corollas yellow, saucer-shaped, the petals 5, broadly egg-shaped, shallowly notched at the tip, 4-7 mm long, calyces 5-lobed, the lobes broadly triangular, bent back, 3-5 mm long, alternating with linear bractlets (sometimes lacking) about 2 mm long; ovaries superior; stamens numerous.

Fruits: Achenes, numerous, spreading in globe-shaped clusters; achenes ellipsoid, flattened, about 3 mm long, short-hairy, beaked with the 3- to 6-mm long persistent style, which has an S-shaped kink near the tip and is glandular below the kink, hairy or smooth and tardily deciduous above it.

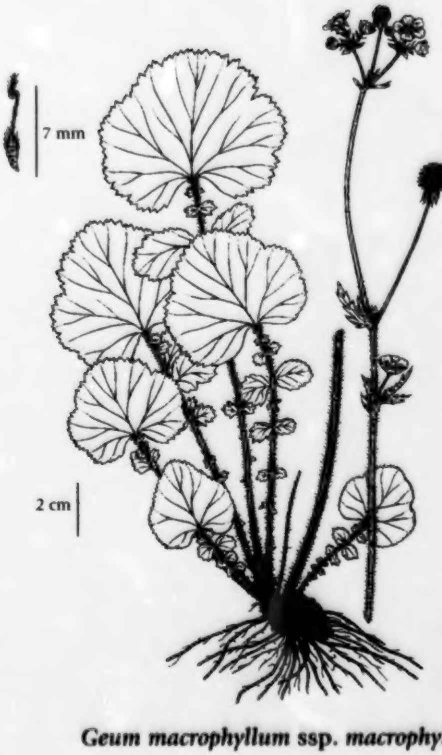
Notes: Two subspecies occur in BC:

1. Terminal segment of basal leaves shallowly rounded-lobed and minutely toothed; flower-shoots and -stalks commonly without glands; plants from west of Coast-Cascade Mountains .... ssp. *macrophyllum*

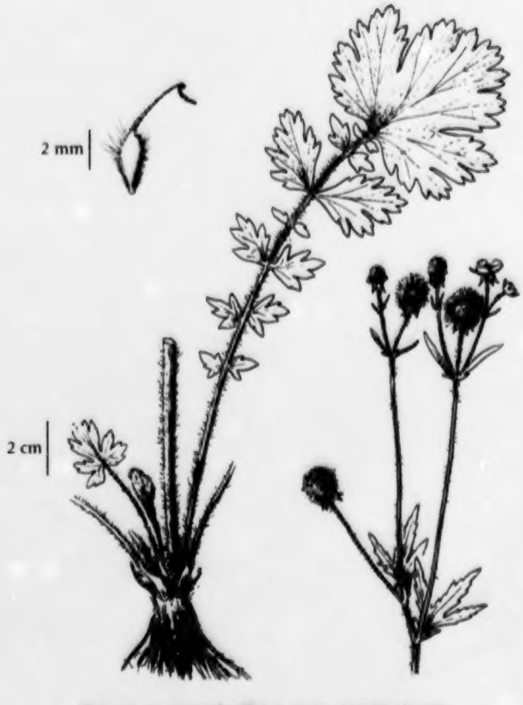
1. Terminal segment of basal leaves deeply lobed and coarsely toothed or incised; flower-shoots and -stalks commonly strongly glandular; plants from east of Coast-Cascade Mountains .... ssp. *perincisum* (Rydb.) Hult.



Geum calthifolium



Geum macrophyllum ssp. *macrophyllum*



Geum macrophyllum ssp. *perincisum*

***Geum rivale* L.**

water avens

HABITAT/RANGE:

Marshes, streambanks, swamps, and moist to wet meadows and open forests in the lowland and montane zones; infrequent in BC east of the Coast-Cascade Mountains, S of 57°N; circumboreal, E to NF and S to CA, NM, MO and PA; Eurasia.

DESCRIPTION:

General: Perennial herb from short rhizome and stout stem-base; stems erect, 30-80 cm tall, simple or few-branched, coarse-hairy becoming fine-hairy above.

Leaves: Basal leaves several, long-stalked, interruptedly pinnately cleft, 10-30 cm long, hairy at least beneath, with 7 to 15 cleft and toothed segments, 1 to 3 of them much larger than the others, the terminal segment the largest, to 10 cm long, broadly egg-shaped and 3-lobed; additional much smaller segments remote and variable in shape; stem leaves alternate, 2 to 5, much smaller, variously toothed to 3-lobed.

Flowers: Inflorescence an open, bracted, terminal cluster of 1 to 9 stalked flowers, the flowers nodding at first, later erect; corollas orange-pink to yellow and purple-veined, bell-shaped, the petals 5, erect, spoon-shaped, shallowly notched, 7-9 mm long; calyces reddish-purple, 5-lobed, the lobes erect, lanceolate, about 10 mm long, alternating with linear bractlets about 1/3 the length of the calyx lobes; ovaries superior; stamens very numerous, 100 or more.

Fruits: Achenes, numerous, spreading, in hemispheric heads; achenes ellipsoid, flattened, 3-4 mm long, stiff-hairy, beaked with the 9- to 12-mm long style, which has an S-shaped kink a little above the middle, the lower persistent joint hairy below and smooth above, the upper (above the kink) ultimately deciduous joint long-hairy.

Geum rossii* (R. Br.) Ser. var. *rossii

Ross' avens

HABITAT/RANGE:

Moist to mesic, open calcareous sites in the alpine zone; rare in NW BC, known only from Yehiniko Lake, near Telegraph Creek; amphiberingian, N to AK and NT and S to NV, NM and AZ; E Asia.

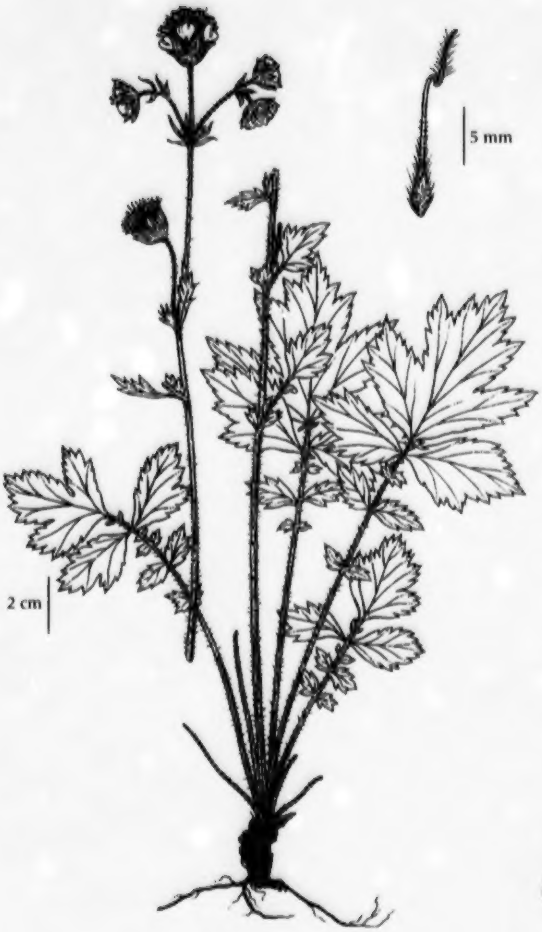
DESCRIPTION:

General: Perennial herb from a thick scaly rhizome and stout stem-base covered with remains of old leaves; stems erect, 5-30 cm tall, simple, tufted, sparsely spreading-hairy to long-soft-hairy.

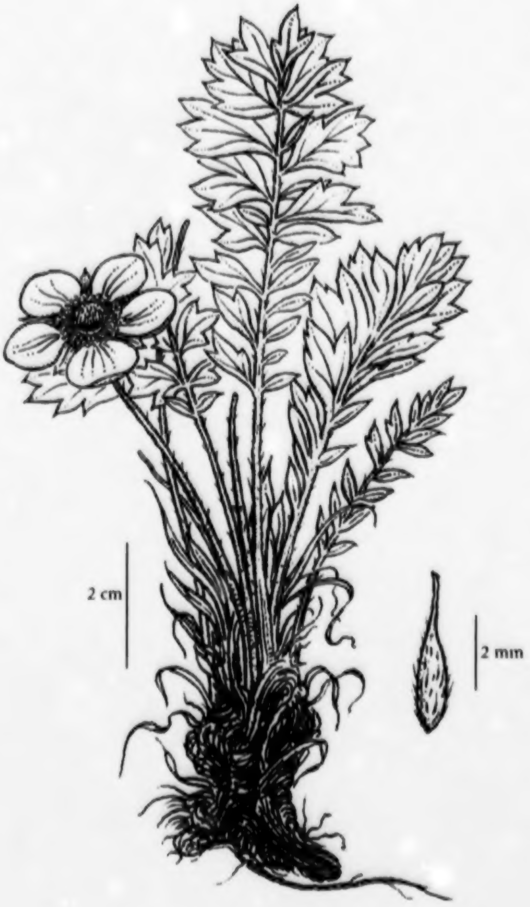
Leaves: Basal leaves numerous, short-stalked, erect to spreading, interruptedly pinnately divided, 4-12 cm long, the blades elliptic-oblong in outline, with 9 to 31 entire to 3- to 5-toothed main segments, the terminal segment similar to the lateral ones, from nearly smooth and greenish to silvery-silky or silvery-long-hairy; stem leaves alternate, several, much reduced.

Flowers: Inflorescence of 1 or 2 (to 4) terminal, erect flowers; corollas yellow, wheel-shaped, the petals 5, nearly circular, spreading, 6-12 mm long; calyces often purplish, 5-lobed, the lobes narrowly egg-shaped, 5-10 mm long, alternating with lanceolate bractlets 3-7 mm long; ovaries superior; stamens numerous, about 60.

Fruits: Achenes, several to many in hemispheric heads; achenes narrowly spindle-shaped, coarse-hairy, the styles persistent, not much elongated, about as long as the achenes, straight, smooth.



Geum rivale



Geum rossii var. *rossii*

***Geum schofieldii* Calder & Taylor** (*G. x macranthum* [Kearney] Boivin)

Queen Charlotte avens

HABITAT/RANGE:

Wet rock crevices in the lowland to subalpine zones; rare on the Queen Charlotte Islands and NW Vancouver Island; endemic.

DESCRIPTION:

General: Perennial herb from a short rhizome and stout stem-base covered with coarse fibres; stems erect, 10-30 cm tall.

Leaves: Basal leaves several, stalked, interruptedly pinnately cleft with 5 to 7 cleft and coarse-toothed major segments, interspersed with several much smaller ones, the terminal segment the largest, 3-lobed or 3-cleft, coarsely toothed; stem leaves alternate, more or less unstalked, much smaller and less divided.

Flowers: Inflorescence of 1 to few stalked, terminal flowers; corollas yellow, wheel-shaped, the petals 5, broadly egg-shaped, shallowly notched, 10-15 mm long; calyces 5-lobed, the lobes lanceolate, erect, shorter than the petals, alternating with 5 narrowly egg-shaped bractlets; ovaries superior; stamens numerous.

Fruits: Achenes, numerous in heads; achenes spindle-shaped, 3-4 mm long, silky-hairy, beaked with the 7- to 10-mm long, persistent, straight, smooth style.

Notes: Endemic to British Columbia. Considered by some authors to be of hybrid origin between *G. rossii* and *G. calthifolium*.

***Geum triflorum* Pursh**

old man's whiskers; prairie smoke

HABITAT/RANGE:

Dry to mesic grasslands, meadows, rocky slopes and open forests in the steppe, montane and subalpine zones; common in S BC east of the Coast-Cascade Mountains, infrequent in the Peace River valley; N to YT and NT, E to NF and S to CA, NM, NE, IL and NY.

DESCRIPTION:

General: Perennial herb, soft- to coarse-hairy throughout, from a short thick rhizome and stout stem-base covered in old leaf bases; stems erect, 20-40 cm tall, tufted.

Leaves: Basal leaves numerous, short-stalked, interruptedly pinnately divided, oblong to egg-shaped in outline, 3-15 cm long, with 9 to 19 (29) crowded, wedge-shaped segments cleft again into narrow, toothed divisions; stem leaves opposite, 2 to 4, small, usually divided into linear lobes.

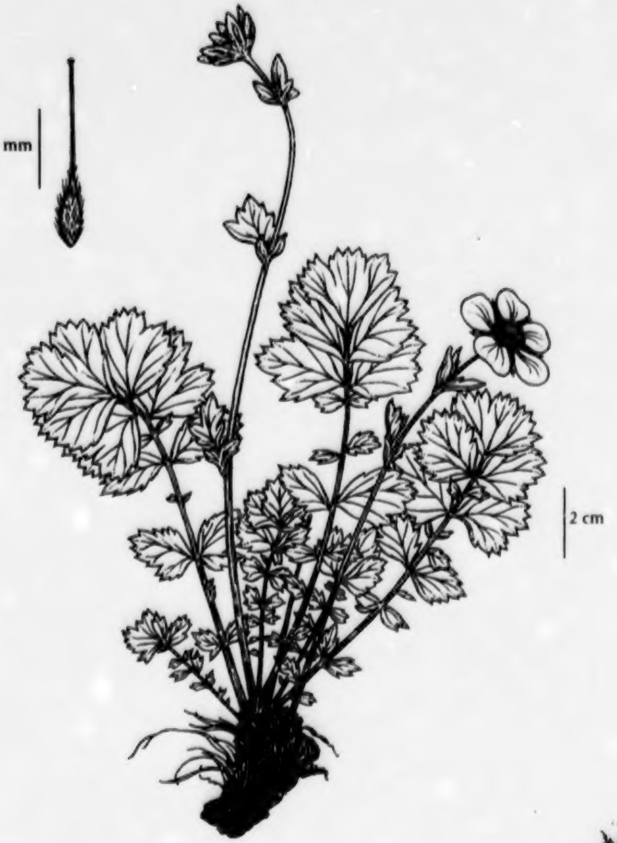
Flowers: Inflorescence an open, bracted, terminal cluster of 1 to 5, usually 3, mostly nodding, stalked flowers that appear to be partially closed; corollas yellowish-white to pink or purplish, the petals 5, elliptic, erect, about as long as the calyx-bractlets; calyces urn- to cup-shaped, reddish-purple, 5-lobed, the lobes lance-triangular, erect, 8-12 mm long, alternating with 5 linear, spreading bractlets, slightly shorter to distinctly longer than the calyx-lobes; ovaries superior; stamens numerous.

Fruits: Achenes, numerous in feathery clusters; achenes pear-shaped, erect, about 3 mm long, beaked; styles 2-5 cm long, slender, feathery-hairy except at the bent tip, bronze to purplish.

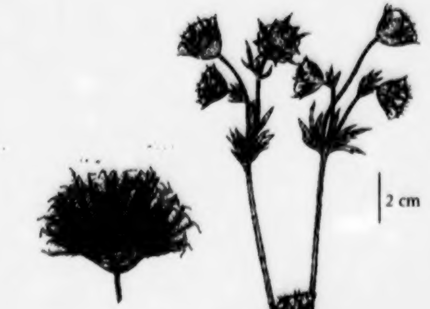
Notes: Two varieties occur in BC:

1. Flowers commonly 3; terminal segment of styles usually persistent; calyx-lobes lanceolate .... var. *triflorum*

1. Flowers commonly more than 3; terminal segment of styles usually deciduous; calyx-lobes narrowly egg-shaped .... var. *ciliatum* (Pursh) Fassett



Geum schofieldii



Geum triflorum* var. *triflorum

HOLODISCUS

Holodiscus discolor **(Pursh) Maxim.**

oceanspray; creambush

HABITAT/RANGE:

Dry to mesic bluffs, rocky slopes, clearings, thickets, forest edges and open forests in the lowland to montane zones; common in S BC, disjunct in Bella Coola valley; S to ID, MT and CA.

DESCRIPTION:

General: Medium to tall shrub, 1-4 m tall; stems slender, erect to ascending, usually arching, hairy, the young stems ridged, older ones with reddish-grey, peeling bark.

Leaves: Alternate, deciduous, dull green, egg-shaped to broadly triangular, 3-6 (10) cm long, coarsely toothed or shallowly pinnately lobed, often with minute, abruptly pointy-tipped, secondary teeth, squared-off to wedge-shaped at the base, on stalks 10-15 mm long, the upper surface green and coarse-hairy to smooth, the lower surface paler, strongly veined and soft-hairy.

Flowers: Inflorescences diffuse, terminal, pyramidal, somewhat drooping clusters 10-17 cm long, of numerous small (3-5 mm across), short-stalked flowers; corollas white to cream, the petals 5, oval, 1.5-2 mm long; calyces deeply 5-lobed, the lobes about 1.5 mm long, short-hairy on the outer surface; ovaries superior, hairy; stamens about 20.

Fruits: Achenes, 5, tiny (about 2 mm long), light brown, long-stiff-hairy; fruit clusters turning brown and remaining on the plants over the winter.

LUETKEA

Luetkea pectinata **(Pursh) Kuntze**

partridge-foot

HABITAT/RANGE:

Mesic to wet forest openings, meadows, heathlands, scree slopes, mossy seepage areas and snowbed tundra in the subalpine to alpine zones; common throughout BC, except NE; N to AK, YT and NT, E to W AB and S to ID, MT and N CA.

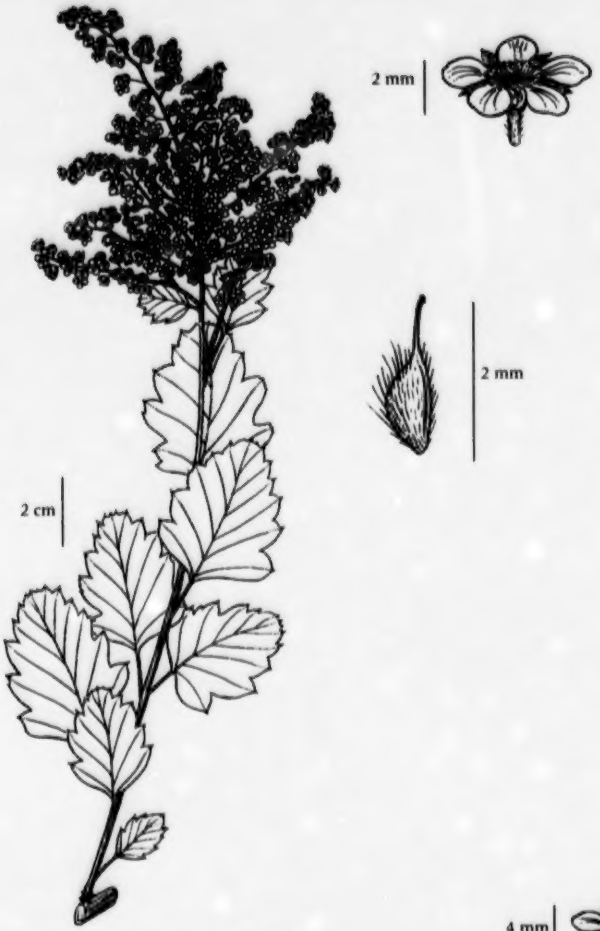
DESCRIPTION:

General: Prostrate, mat-forming, semi-shrub from a rhizome and branching stolons; flowering stems erect to ascending, 5-20 cm tall, smooth or sparsely soft-hairy in grooves along the stem.

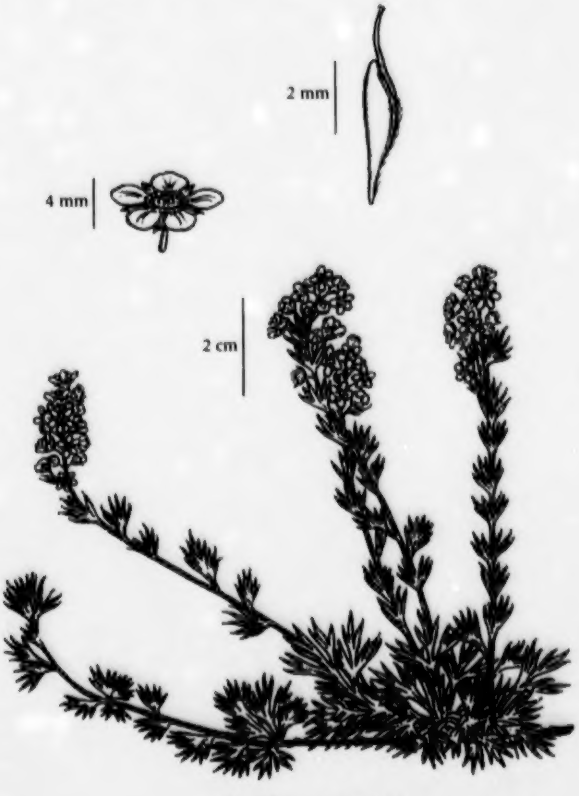
Leaves: Evergreen, smooth, dead leaves withering and persistent for many years; basal leaves numerous, crowded in thick tufts, 7-20 mm long, the narrowly wing-margined stalk about as long as the fan-shaped blade, which is two- to three-times 3-dissected, the ultimate segments linear-lanceolate, sharp-pointed, ribbed below, grooved above; stem leaves alternate, similar but smaller.

Flowers: Inflorescences dense, narrow, bracted, erect, terminal clusters, 1-7 cm long, of several to many short-stalked flowers; corollas white, saucer-shaped, the petals 5, egg- to spoon-shaped, 3-4 mm long; calyces 5-lobed, the lobes triangular, about 2 mm long; ovaries superior; stamens about 20.

Fruits: Follicles, 4-5 mm long, short-stalked, somewhat leathery, smooth or sparsely silky-hairy along the ventral suture; seeds 4, spindle-shaped.



Holodiscus discolor



Luetkea pectinata

MALUS

1. Styles usually 3; fruits less than 2 cm long; at least some of the leaves lobed .... *M. fusca*
1. Styles usually 5; fruits well over 2 cm long; leaves not lobed .... *M. pumila*

Malus fusca **(Raf.) Schneid.** (*Pyrus fusca* Raf., *P. diversifolia* Bong.)

Pacific crab apple

HABITAT/RANGE:

Moist to wet, open forests, streambanks, upper beaches, shoreline thickets, estuary fringes, swamps and bogs in the lowland zone; common on coastal islands and adjacent mainland; N to AK and S to CA.

DESCRIPTION:

General: Tall shrub or small tree, 2-8 (12) m tall; branches armed with stiff, sharp, thorn-like spur-shoots; young twigs curly-hairy; bark brown, rough, shredding, the older bark deeply fissured.

Leaves: Alternate, deciduous, lance- to egg-shaped, long-stalked, the blades 3-9 cm long, sharp-pointed at the tip, saw-toothed and often irregularly lobed, green and smooth or hairy above, paler and hairy below.

Flowers: Inflorescences flat-topped clusters of 5 to 12 long-stalked flowers on short spur-shoots; corollas white to pink, fragrant, about 2 cm across, the petals 5, egg-shaped, 8-14 mm long; calyces hairy, 5-lobed, the lobes lanceolate, bent back, 3-5 mm long, deciduous; ovaries inferior; styles usually 3, smooth; stamens about 20.

Fruits: Fleshy pomes (small apples), ellipsoid to egg-shaped, 1-1.5 cm long, green becoming yellow to reddish or purplish, 3- to 4-chambered; seeds 1 or 2 per chamber.

Malus pumila **Mill.** (*M. domestica* Borkh., *M. sylvestris* [L.] Mill., *Pyrus malus* L.)

cultivated apple

HABITAT/RANGE:

Mesic to moist forest edges, thickets, clearings and waste places in the lowland, steppe and montane zones; rare throughout BC; introduced from Europe.

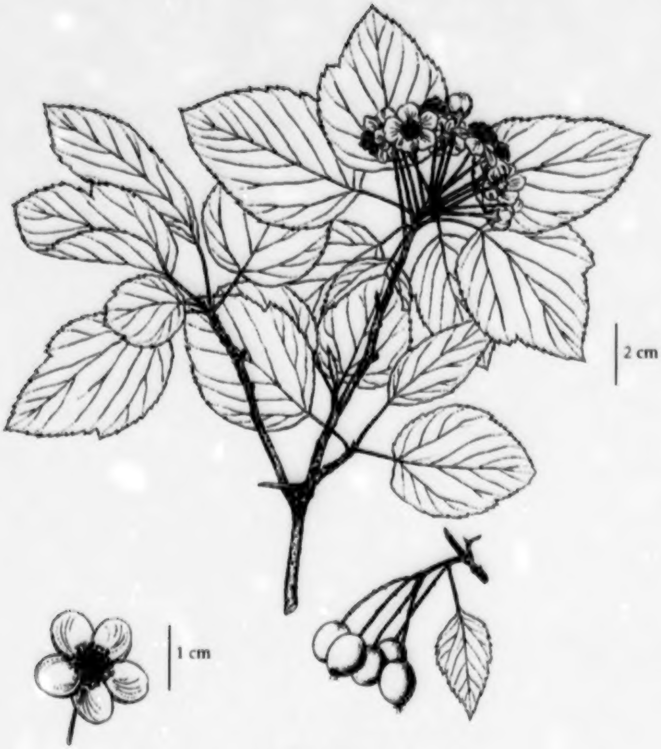
DESCRIPTION:

General: Small much-branched tree, 4-12 m tall; young twigs densely hairy or woolly.

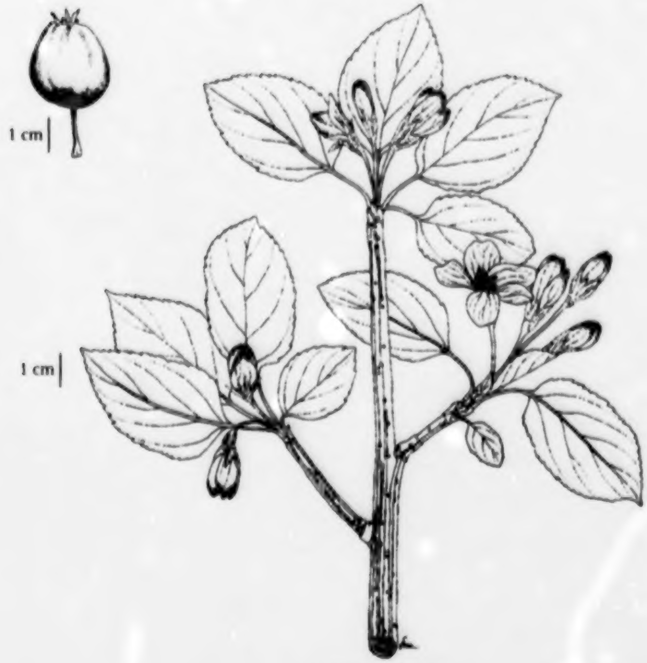
Leaves: Alternate, deciduous, elliptic to oblong-egg-shaped, long-stalked, the blades 5-10 cm long, rather thick and veiny, abruptly short-pointed at the tip, broad at the base, irregularly blunt-toothed but not lobed, hairy or becoming smooth when mature.

Flowers: Inflorescences loose, flat-topped to rounded clusters of several flowers on short spur-shoots, the flowers on long woolly-hairy stalks; corollas white to pale pink, 3-5 cm across, appearing with or just in advance of the leaves, the petals 5, mostly 15-25 mm long; calyces 5-lobed, the lobes lanceolate, persistent, 5-10 mm long, longer than the tube; ovaries inferior; styles usually 5, hairy at the base.

Fruits: Fleshy pomes (apples), variable in size, shape and colour, more than 2 cm long, globe-, egg- or cone-shaped, with depression at both ends, 4- to 5-chambered, the flesh without grit cells; seeds 1 or 2 per chamber.



Malus fusca



Malus pumila

OEMLERIA

Oemleria cerasiformis **(Hook.& Arn.) Landon** (*Osmaronia cerasiformis* [T. & G.] Greene)
Indian-plum

HABITAT/RANGE:

Moist to dry open forests, forest edges, thickets, streambanks, clearings and roadsides in the lowland zone; frequent on S Vancouver Island, the Gulf Islands and the adjacent mainland; S to N CA.

DESCRIPTION:

General: Medium to tall shrub, 1-5 m tall; stems clumped, arching; pith chambered; bark bitter, purplish-brown.

Leaves: Alternate, deciduous, lanceolate to oblong-egg-shaped or elliptic, short-stalked, the stalks 5-10 mm long, the blades 5-12 cm long, not toothed, pale green and smooth above, paler and often sparsely hairy below; crushed leaves smell like cucumber.

Flowers: Inflorescences loose, drooping, bracted, 5- to 10-cm long clusters, at the ends of short axillary branchlets, of several (5 to 10) stalked flowers; flowers mostly unisexual, the male and female flowers on separate plants, appearing very early in the year, as the leaves develop; corollas greenish-white, saucer- to cup-shaped, about 1 cm across, the petals 5, egg-shaped, 5-6 mm long, spreading (shorter, narrower and erect on female flowers); calyces 6-7 mm long, 5-lobed, the lobes about equalling the top-shaped hypanthium; ovaries (female plants) usually 5, superior; stamens 15.

Fruits: Fleshy drupes, like small plums with a large stone, bean-shaped, about 1 cm long, peach-coloured, ripening to bluish-black with a whitish bloom, 1 to 5 per female flower; seeds 1 per drupe.

PENTAPHYLLOIDES

Pentaphylloides floribunda **(Pursh) A. Löve** (*Potentilla fruticosa* L. ssp. *floribunda* [Pursh] Elkington)
shrubby cinquefoil

HABITAT/RANGE:

Dry to wet meadows, thickets, fens, bogs, rocky slopes, gravelly flats and tundra in the montane to alpine zones; common throughout BC, except rare on the coast; circumboreal, N to AK and NT, E to NF and S to NJ, CO, NM and CA; Eurasia.

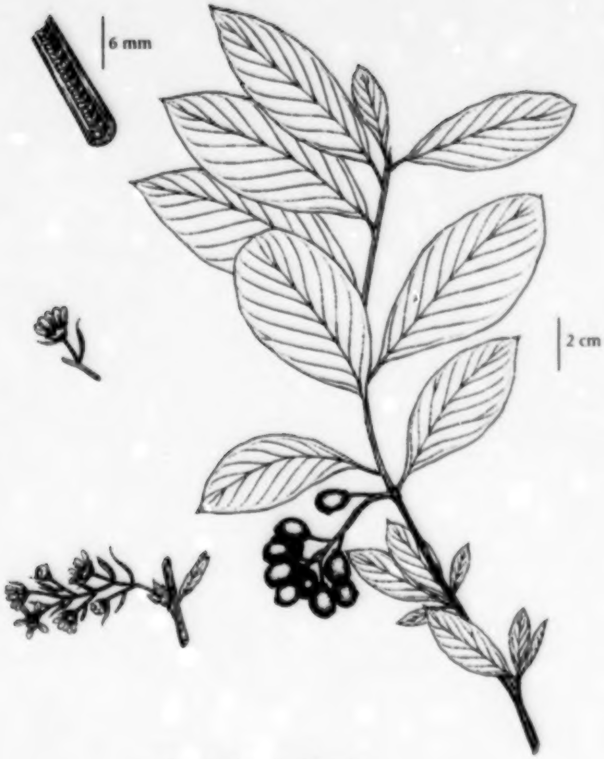
DESCRIPTION:

General: Low to medium shrub, 0.3-1.5 m tall; stems spreading to erect, freely branched; young branches silky-hairy but soon becoming smooth; older branches with brown, shredding bark.

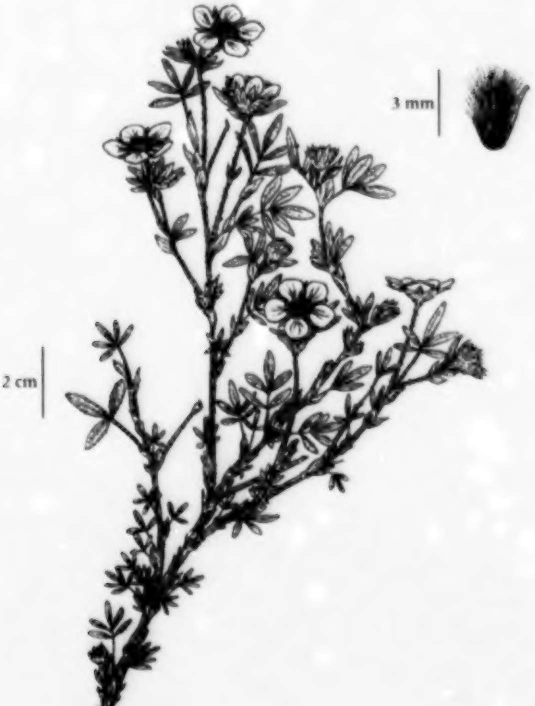
Leaves: Alternate, deciduous, numerous, short-stalked, pinnately compound; leaflets 3 to 7, usually 5, crowded, oblong to linear, 0.5-2 cm long, greyish-green and silky to sparsely hairy above, silvery-silky beneath, the margins entire and often rolled under.

Flowers: Inflorescence of 1 to few stalked flowers, single in the leaf axils or in small clusters at the branch tips; corollas yellow, saucer-shaped, (small and pale at low elevations to larger and brighter at higher elevations), the petals 5, nearly circular, 6-14 mm long; calyces soft-hairy, 5-lobed, the lobes lance-egg-shaped, 4-9 mm long, alternating with 5 narrower, slightly longer bractlets; ovaries superior, the styles club-shaped; stamens 25 to 30.

Fruits: Achenes, numerous, clustered, egg-shaped, 1.5-2 mm long, coarsely white-hairy.



Oemleria cerasiformis



Pentaphylloides floribunda

PHYSOCARPUS

1. Follicles 3-5, smooth except along sutures, united at the base; leaf lobes more or less sharp-pointed at the tips; plants of moist to wet habitats .... *P. capitatus*

1. Follicles 2, densely star-shaped-hairy, united for at least half their length; leaf lobes rounded at the tip; plants of relatively dry habitats .... *P. malvaceus*

Physocarpus capitatus **(Pursh) Kuntze** (*P. opulifolius* [L.] Maxim.)

Pacific ninebark

HABITAT/RANGE:

Moist to wet streamside thickets, forest edges, open forests, margins of lakes and marshes, clearings and roadsides in the lowland to montane zones; frequent in SW BC, locally frequent in SE BC; N to AK and S to N ID and CA.

DESCRIPTION:

General: Medium to tall shrub, 1-4 m tall; branches erect to arching, angled, smooth to minutely star-shaped-hairy when young, eventually with brown, shredding bark.

Leaves: Alternate, deciduous, the stalks 1-3 cm long, the blades egg- to heart-shaped in outline, 3-10 cm long, palmately 3- or 5-lobed, the lobes irregularly double-toothed, deeply veined, shiny dark green above, paler and with abundant star-shaped hairs below.

Flowers: Inflorescences dense, terminal, half-rounded clusters of numerous stalked flowers, the stalks woolly; corollas white, saucer-shaped, the petals 5, nearly circular, 3-5 mm long; calyces densely star-shaped-hairy, 5-lobed, the lanceolate lobes about 3 mm long, somewhat bent back; ovaries superior; stamens about 30, pink.

Fruits: Follicles, 3 to 5, barely joined at the base, inflated, 7-11 mm long, reddish, mostly smooth; seeds 1 to 4 per follicle, pear-shaped, yellowish, hardened, shiny.

Physocarpus malvaceus **(Greene) Kuntze**

mallow ninebark

HABITAT/RANGE:

Dry rocky hillsides and open forests in the montane zone; locally frequent in SE BC, rare in SC BC; E to AB and S to WY, UT and OR.

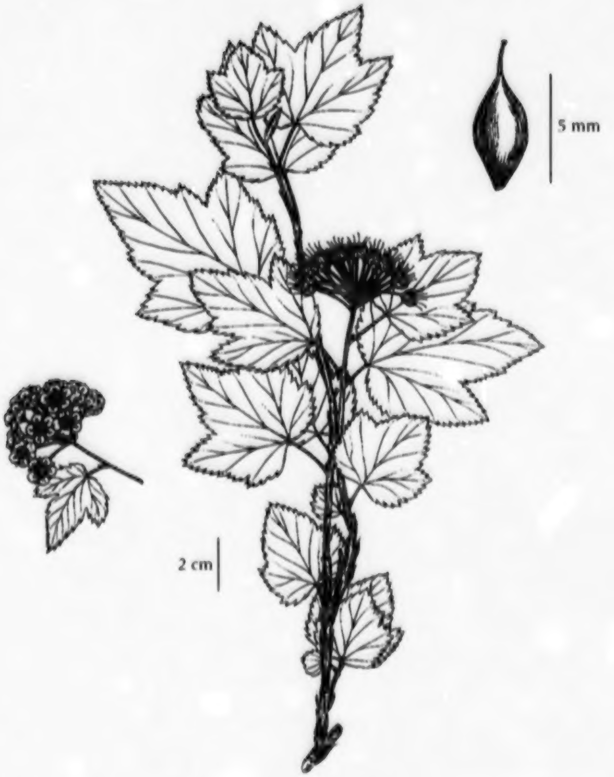
DESCRIPTION:

General: Medium shrub, 0.5-2 m tall; branches erect to arching, angled, minutely star-shaped-hairy when young, eventually with brown, papery, shredding bark.

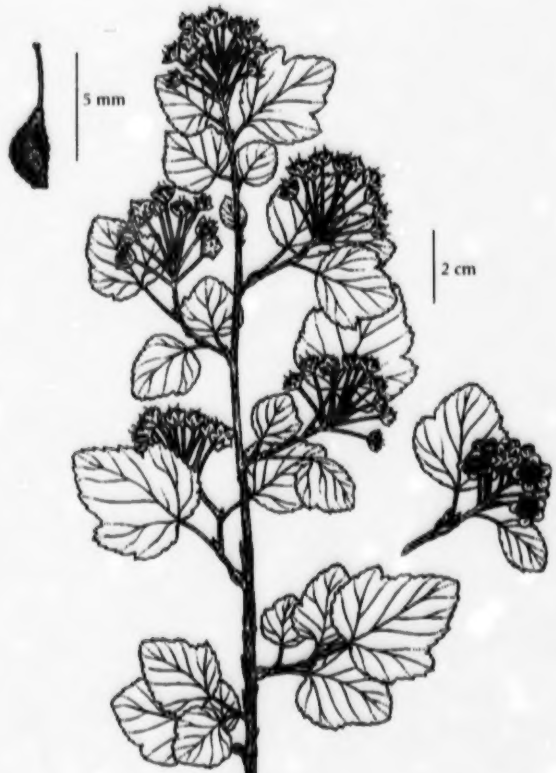
Leaves: Alternate, deciduous, stalked, the blades egg- to heart-shaped in outline, 3-5 cm long, palmately 3- to 5-lobed, the lobes irregularly double-toothed, star-shaped-hairy at least on the lower surface.

Flowers: Inflorescences dense, terminal, half-rounded clusters of several to many stalked flowers, the stalks star-shaped-hairy; corollas white, saucer-shaped, the petals 5, nearly circular, about 3 mm long; calyces densely star-shaped-hairy, 5-lobed, the lanceolate lobes about 3 mm long, somewhat bent back; ovaries superior; stamens about 30.

Fruits: Follicles, 2, joined at the base at least to midlength, inflated, 7-10 mm long, densely star-shaped-hairy; seeds 1 to 4 per follicle, hardened, shiny.



Physocarpus capitatus



Physocarpus malvaceus

POTENTILLA

1. Plants with strawberry-like stolons; flowers single on naked stalks.
    2. Leaf-stalks and stolons densely to sparsely silky, with spreading hairs; mature achenes with 1 to several longitudinal wrinkles; plants from east of the Coast-Cascade Mountains .... *P. anserina*
    2. Leaf-stalks and stolons sparsely appressed-hairy to smooth; mature achenes slightly if at all wrinkled; plants of the coast .... *P. egedii*
1. Plants without stolons; flowers mostly several on leafy stems.
    3. Plants annuals or biennials (rarely short-lived perennials) from taproots; leaves not white-woolly beneath.
        4. Mature achenes with a thickened wedge-shaped crest nearly as large as rest of achene; stamens usually 20; lower leaves pinnately compound with 5 to 11 leaflets .... *P. paradoxa*
        4. Mature achenes lacking a conspicuous crest; stamens 10-20; lower leaves palmately compound with 3 to 5 leaflets.
            5. Stems stiffly coarse-hairy below, with unicellular, often pustular-based hairs; achenes strongly wavy-wrinkled .... *P. norvegica*
            5. Stems soft-hairy below; achenes smooth or faintly wrinkled.
                6. Stems fine-hairy to woolly below, lacking glands; calyces without glands; lower stem leaves usually with 5 leaflets .... *P. rivalis*
                6. Stems mixed fine-hairy and thicker glandular-hairy below; calyces glandular; lower stem leaves with 3 leaflets .... *P. biennis*
    3. Plants perennials, with well-developed rhizomes; leaves often white-woolly beneath.
        7. Styles slender, tapering to both ends, thickened and roughened near midlength, attached below mid-point of ovary; leaves pinnately compound with 5 to 11 leaflets; stamens about 25.
            8. Cymes short, dense, with lateral branches erect; stems stout, 30-100 cm tall .... *P. arguta*
            8. Cymes open, with lateral branches somewhat spreading; stems not stout, 10-60 cm tall .... *P. glandulosa*
        7. Styles tapering from base, often attached near top of ovary; leaves palmately or pinnately compound; stamens often 20.
            9. Basal leaves predominantly odd-pinnately compound, usually with 5 or more leaflets, rarely with 3.
                10. Styles thickened and glandular at the base, shorter than the mature achenes.
                    11. Leaflets 5 to 7 in close pairs (often appearing digitate), commonly cleft almost to midrib, flowers 1 cm or less across; petals shorter than calyx lobes .... *P. bipinnatifida*
                    11. Leaflets 7 to 9 or more in remote pairs, commonly cleft about halfway to midrib; flowers 1 cm or more across; petals longer than calyx lobes .... *P. pensylvanica*
                10. Styles slender, not glandular-thickened, as long as to much longer than the mature achenes.
                    12. Leaflets in close pairs, appearing palmate, or some truly palmate .... *P. diversifolia*
                    12. Leaves distinctly pinnate.
                        13. Stems and leaves green and thinly long-hairy to nearly smooth .... *P. drummondii*
                        13. Stems and leaves greyish-woolly.
                            14. Leaflets toothed, cleft not more than halfway to midrib, usually greyer beneath than above; plants infrequent in interior .... *P. hippiana*
                            14. Leaflets cleft nearly to the base into linear-oblong segments, grey throughout; plants rare in SC and extreme SE BC .... *P. ovina*

9. Basal leaves palmately compound.

15. Leaves usually with 5 to 9 leaflets.

16. Mature achenes net-veined; stems coarse- or bristly-hairy; leaves predominantly along the stem, green on both sides .... *P. recta*

16. Mature achenes wrinkled or smooth; stems smooth to woolly, not bristly-hairy; leaves often strongly basal, often white beneath.

17. Flowers 1 cm or less across; stem leaves several (6 to 10), only gradually reduced upward.

18. Mature achenes smooth or faintly net-veined; stems and underside of leaves white-woolly .... *P. argentea*

18. Mature achenes wrinkled; stems greyish-soft-hairy; leaves greenish and soft hairy on both surfaces to grey-hairy beneath .... *P. intermedia*

17. Flowers more than 1 cm across; stem leaves few (1 to 3), abruptly reduced to bracts.

19. Plants 15-45 cm tall; leaflets mostly 1-3 cm long, usually green or equally greyish-silky on both surfaces; anthers about 0.5 mm long .... *P. diversifolia*

19. Plants 30-80 cm tall; leaflets mostly 3-8 cm long, often white-woolly beneath or much paler on lower than on upper surface; anthers about 1 mm long.

20. Leaftlets divided 1/5 to nearly 1/2 the distance to the midvein, finely and evenly saw-toothed, greyish-hairy beneath .... *P. pulcherrima*

20. Leaflets either greenish beneath, or white-woolly beneath, divided more than 1/2 the distance to the midvein, and coarsely and somewhat irregularly toothed .... *P. gracilis*

15. Leaves mostly with 3 leaflets.

21. Leaves not woolly; styles usually not warty or granular at base.

22. Leaflets merely toothed, not divided.

23. Stems usually less than 10 cm tall, decumbent to erect; leaflets broadly egg-shaped, soft-hairy at least on the lower surface; petals 5-8 mm long .... *P. nana*

23. Stems 10-30 cm tall, erect; leaflets wedge- to fan-shaped, smooth or very sparsely hairy; petals 6-10 mm long .... *P. flabellifolia*

22. Leaflets divided to the middle or lower.

24. Leaflets small, 2-8 mm long, divided to about the middle into linear-oblong, blunt lobes; petals 2-4 mm long .... *P. elegans*

24. Leaflets larger, 8-17 mm long, divided to the base into linear lobes; petals 5-10 mm long .... *P. biflora*

21. Leaves more or less woolly beneath; styles usually warty or granular at base.

25. Plants densely long-soft-hairy throughout; stipules very dark; flowers often more than 2 cm across; bractlets elliptic-oval .... *P. villosa*

25. Plants not densely long-soft-hairy; stipules usually lighter; flowers less than 2 cm across; bractlets linear to linear-lanceolate.

26. Leaf-stalks woolly, lacking long soft hairs .... *P. nivea*

26. Leaf-stalks with long soft hairs, not woolly.

27. Inflorescences usually with more than 2 flowers; leaf-stalks with short curly hairs as well as long soft spreading hairs .... *P. hookeriana*

27. Inflorescences 1- to 2-flowered; leaf-stalks with long soft spreading hairs but not minutely hairy .... *P. uniflora*

Potentilla anserina **L.** (*Argentina anserina* [L.] Rydb.)

common silverweed

HABITAT/RANGE:

Margins of streams, lakes and ponds, mudflats, and moist alkaline meadows and grasslands in the montane zone; common in S BC east of the Coast-Cascade Mountains, rare northward; circumboreal, N to AK, E to NF and S to CA, NM, IA and NY; Eurasia.

DESCRIPTION:

General: Perennial herb from a long, strawberry-like stolon or runner, rooting and producing leaf-clusters at the nodes, spreading-silky on the stolons.

Leaves: All basal, tufted, 5-25 cm long, stalked, ascending, pinnately compound; 7 to 21 main leaflets 0.5-3.5 cm long, interspersed with smaller ones, oblong to egg-shaped, coarsely saw-toothed, whitish-silky-woolly on both surfaces to greenish and sparsely hairy above, the leaf-stalks spreading-silky.

Flowers: Inflorescence of single flowers on long naked stalks from the leafy nodes of the stolons, the stalks 3-10 cm long; corollas yellow, bowl-shaped, the petals 5, oval to oval-oblong , 6-12 mm long; calyces silky, 5-lobed, the lobes triangular-egg-shaped, 3-6 mm long, enlarging and becoming erect in fruit, alternating with 5 shorter, often toothed bractlets; ovaries superior; stamens 20 to 25.

Fruits: Achenes, numerous, plumply egg-shaped, about 2 mm long, wrinkled lengthwise.

Potentilla argentea **L.**

silvery cinquefoil

HABITAT/RANGE:

Dry open ground and waste places in the lowland, steppe and lower montane zones; locally frequent in S BC, especially east of the Coast-Cascade Mountains; introduced from Europe.

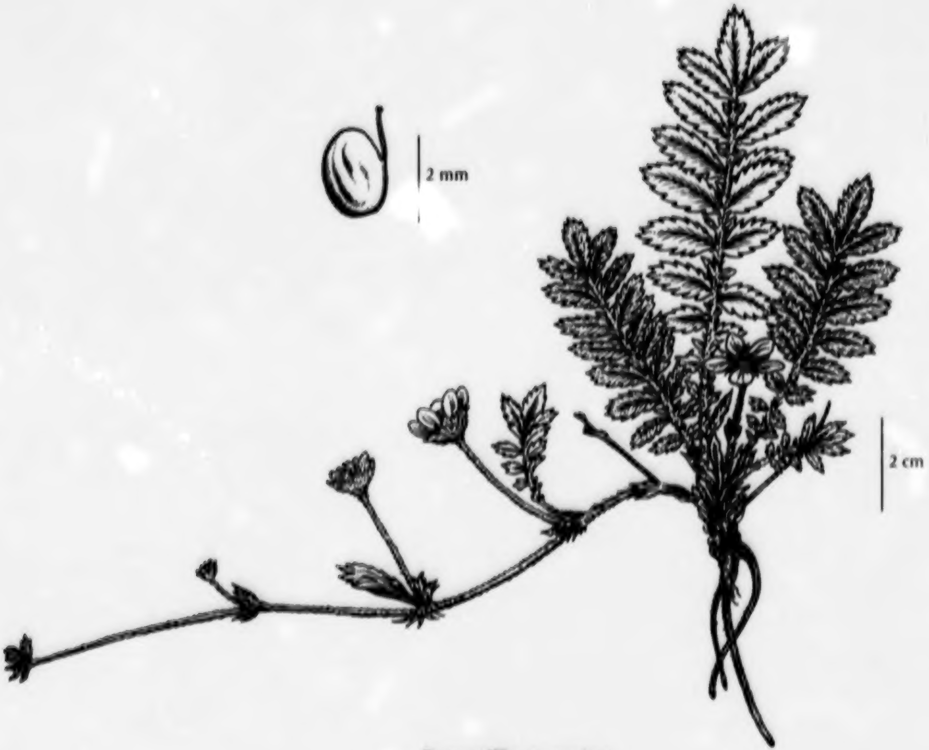
DESCRIPTION:

General: Perennial herb from a heavy woody stem-base; stems several, tufted, spreading to erect, 10-50 cm tall, very leafy, freely branched, white-woolly.

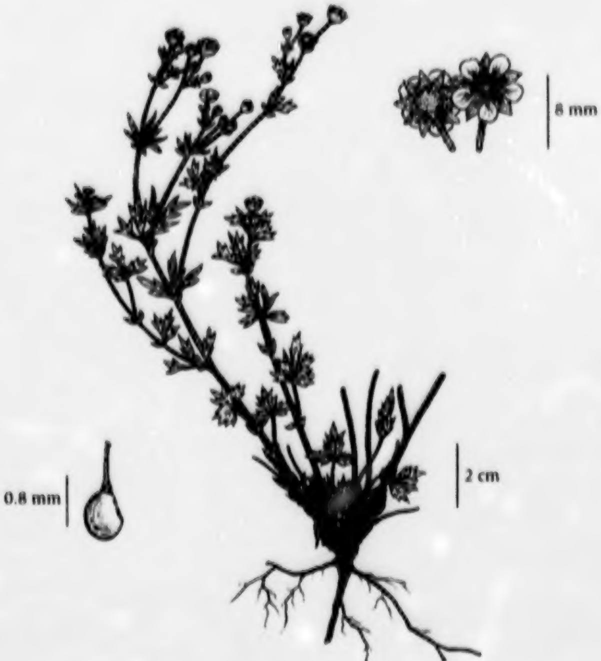
Leaves: Basal leaves few, stalked, palmately compound; leaflets mostly 5, lanceolate, 1-2.5 cm long, deeply toothed to cleft above the middle into narrow teeth with rolled-under margins, greenish and silky-hairy on the upper surface, white-woolly beneath; stem leaves alternate, 5 to 10, similar but short-stalked to unstalked.

Flowers: Inflorescence an open leafy terminal cluster of many stalked flowers; corollas yellow, bowl-shaped, the petals 5, egg-shaped, 2-4 mm long; calyces silky-hairy, 5-lobed, the lobes lance-egg-shaped, about as long as the petals, alternating with 5 narrower bractlets; ovaries superior, the styles thickened and glandular-warty at the base; stamens about 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 0.7 mm long, smooth or faintly net-veined.



Potentilla anserina


8 mm
0.8 mm
2 cm

Potentilla argentea

Potentilla arguta **Pursh ssp.** ***convallaria*** **(Rydb.) Keck**

white cinquefoil; tall cinquefoil

HABITAT/RANGE:

Dry to moist meadows, thickets, rocky grassy slopes and open forests in the steppe and montane zones; frequent throughout BC, except along the coast; N to AK, E to PQ and S to OR, AZ, NM, OK and NJ.

DESCRIPTION:

General: Perennial herb from a short rhizome and branched stem-base; stems several, erect, 30-100 cm tall, strongly glandular-hairy.

Leaves: Basal leaves several, long-stalked, pinnately compound; leaflets 5 to 9, mostly egg-shaped, 1-5 cm long, coarsely double-toothed, greenish and usually both glandular-hairy and coarse-hairy but sometimes nearly smooth on both surfaces; stem leaves alternate, few, reduced upward.

Flowers: Inflorescence a compact, narrow, nearly flat-topped, terminal cluster of several to many stalked flowers; corollas pale yellow to cream or whitish, bowl-shaped, the petals 5, oblong-egg-shaped, 5-9 mm long; calyces glandular, 5-lobed, the lobes lance-egg-shaped, 4-8 mm long, alternating with 5 shorter, narrower bractlets; ovaries superior, the styles spindle-shaped and glandular-roughened near the middle; stamens usually 25.

Fruits: Achenes, numerous, lopsided-egg-shaped, 1-1.5 mm long, smooth.

Notes: The subspecies *arguta*, with brown-hairy stems, is found east of the Rocky Mountains and may be expected in NE BC.

Potentilla biennis **Greene**

biennial cinquefoil

HABITAT/RANGE:

Moist meadows and waste places in the steppe and montane zones; infrequent in C and SC BC; E to SK and S to CO, AZ, CA and MX.

DESCRIPTION:

General: Annual or biennial herb from a taproot; stems mostly single, ascending to erect, 10-60 cm tall, leafy, densely covered with mixed fine and thicker glandular hairs.

Leaves: Basal leaves few, stalked, palmately compound; leaflets 3, egg-shaped to lanceolate, 1-5 cm long, coarsely blunt-toothed, fine-hairy and glandular-hairy; stem leaves alternate, similar, several, reduced upward.

Flowers: Inflorescence a spreading, leafy-bracted, terminal cluster of several to many stalked flowers; corollas yellow, cup-shaped, the petals 5, spoon-shaped, about 1/2 the length of the calyx-lobes; calyces glandular-hairy and appressed-hairy, 5-lobed, the lobes triangular-egg-shaped, 2-4 mm long, alternating with 5 narrower shorter bractlets; ovaries superior, the styles thickened at the base; stamens 10 or 15.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 0.8 mm long, yellow, smooth.

Potentilla biflora **Willd.** ***ex*** **Schlecht.**

two-flowered cinquefoil

HABITAT/RANGE:

Dry to mesic rocky slopes in the subalpine and alpine zones; rare in N BC; amphiberingian, N to AK and NT; Asia.

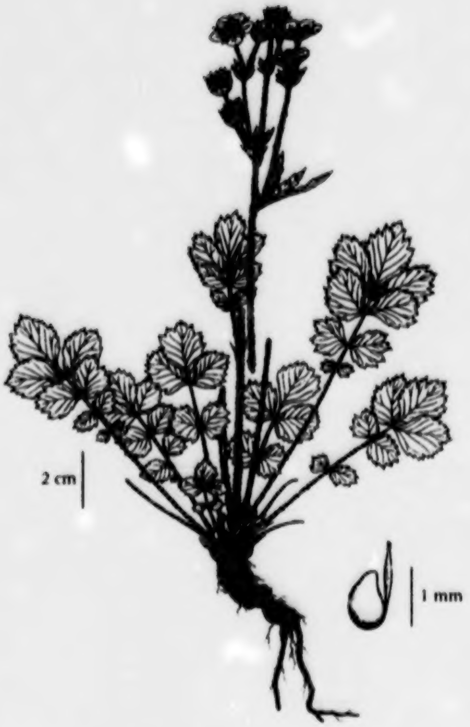
DESCRIPTION:

General: Dwarf perennial herb from a branched stem-base covered with shiny brown remains of leaf-bases; stems densely tufted, ascending to erect, 4-15 cm tall.

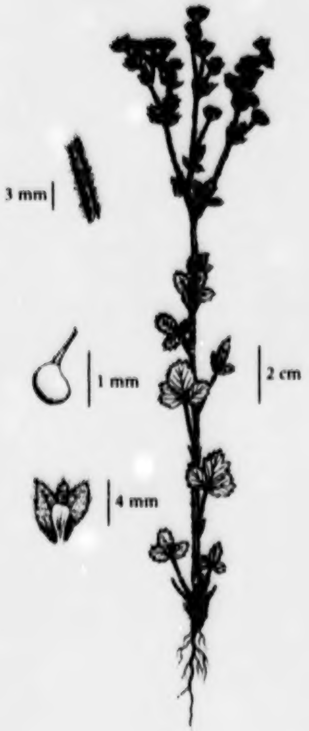
Leaves: All basal, several, long-stalked, palmately compound, 2-7 cm long; leaflets 3, oval in outline, 8-17 mm long, deeply divided to the base into 2 or 3 linear segments, green and sparsely long-hairy above, paler and sparsely hairy to nearly smooth beneath, the margins rolled under.

Flowers: Inflorescence of 1 to 3 stalked terminal flowers; corollas yellow, saucer-shaped, the petals 5, heart-shaped, 5-10 mm long, notched at the tip; calyces often somewhat long-hairy, 5-lobed, the lobes narrowly egg-shaped, 3.5-6 mm long, alternating with 5 oblong bractlets about as long as the sepals; ovaries superior; stamens 20.

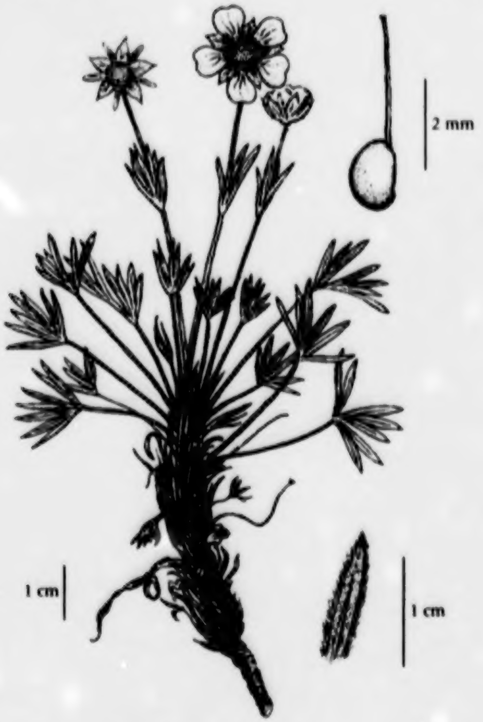
Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, 1.5-2 mm long.



Potentilla arguta ssp. *convallaria*


3 mm
1 mm
2 cm
4 mm

Potentilla biennis



Potentilla biflora

Potentilla bipinnatifida **Dougl.** ***ex*** **Hook.** (*P. pensylvanica* L. var. *bipinnatifida* [Dougl. *ex* Hook.] T. & G.)
bipinnate cinquefoil

HABITAT/RANGE:

Moist meadows, grassy slopes, alkali flats and lake margins in the steppe and montane zones; infrequent in BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to NF and S to CA, NM, IN and NH.

DESCRIPTION:

General: Perennial herb from stout branched stem-base; stems slender, 1 to several, tufted, erect or decumbent at the base, 20-50 cm tall, usually with short and long, spreading or ascending hairs.

Leaves: Basal leaves stalked, pinnately compound but sometimes appearing palmate; leaflets 5 to 7 (9), crowded, oblong to lanceolate, 1-6 cm long, cleft nearly to the midrib into linear-oblong lobes, grey-green and sparsely to densely hairy on the upper surface, white-woolly overlain with long-silky hairs or occasionally nearly smooth and greenish beneath; stem leaves alternate, similar but short-stalked, 2 to 4, reduced upward.

Flowers: Inflorescence an open to compact and narrow, terminal cluster of several to many stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 2-3 mm long; calyces woolly- to appressed-hairy and more or less glandular, 5-lobed, the lobes egg-shaped, 3-4 mm long, alternating with 5 shorter, lance-oblong bractlets; ovaries superior, the styles glandular-warty-thickened at the base; stamens usually 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1 mm long.

Potentilla diversifolia **Lehm.**
diverse-leaved cinquefoil; blue-leaved cinquefoil

HABITAT/RANGE:

Mesic to dry meadows, tundra, rocky slopes, gravel bars, grasslands and open forests in the montane to alpine zones; common throughout BC, except rare on the coast; N to S AK and YT; E to SK and S to UT, NM and CA.

DESCRIPTION:

General: Perennial herb from a short stout rhizome and branched stem-base; stems slender, usually several, tufted, spreading to erect, 10-40 cm tall, smooth toward the base, appressed-hairy above.

Leaves: Basal leaves long-stalked, palmately or pinnately compound; leaflets 5 to 7, oblong-lanceolate to egg-shaped, 1-3 (5) cm long, strongly toothed mostly above the middle, greenish or often glaucous blue-green and smooth to slightly hairy on the upper surface, generally appressed-hairy beneath; stem leaves alternate, 1 or 2.

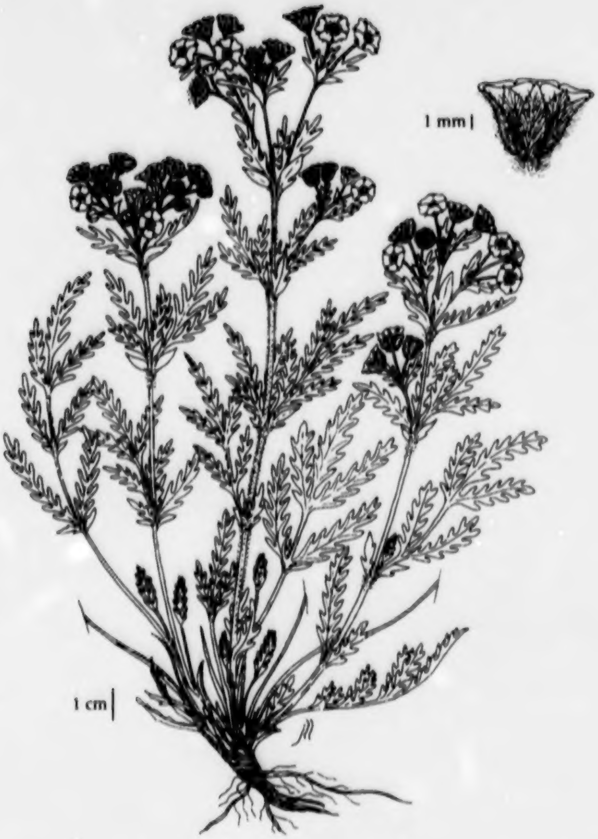
Flowers: Inflorescence an open terminal cluster of few to several (less than 20) stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 5-10 mm long, shallowly notched at the tip; calyces silky-long-hairy, 5-lobed, the lobes lance-triangular, 4-7 mm long, alternating with 5 shorter, narrowly lanceolate bractlets; ovaries superior; stamens 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1.5 mm long, brown, smooth to faintly net-veined.

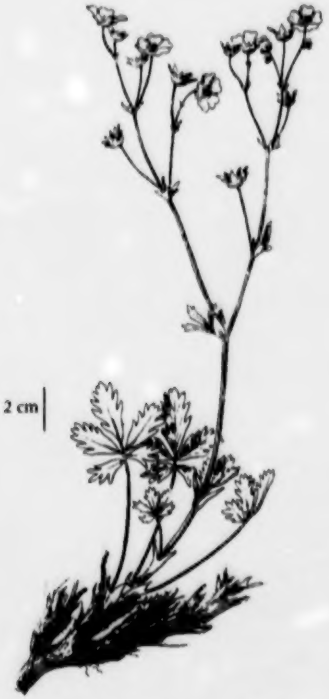
Notes: Two varieties occur in BC. These varieties appear to hybridize freely in SE BC, where numerous intermediates occur.

1. Leaves primarily palmately compound; leaflets deeply toothed; the common variety .... var. *diversifolia*

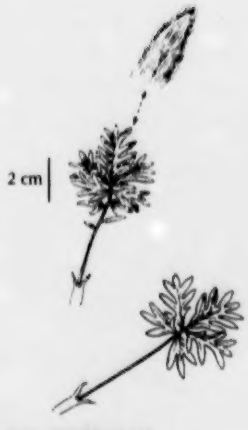
1. Leaves more or less pinnately compound; leaflets dissected to base; plants of SE and SC BC, rare ....
.... var. *perdissecta* (Rydb.) C.L. Hitchc.



Potentilla bipinnatifida



Potentilla diversifolia var. *diversifolia*



var. *perdissecta*

Potentilla drummondii **Lehm. ssp.** ***drummondii***

Drummond's cinquefoil

HABITAT/RANGE:

Moist to wet, open rocky slopes, meadows and open forests in the montane to alpine zones; infrequent throughout BC south of 55°N; E to W AB and S to N CA.

DESCRIPTION:

General: Perennial herb from a short thick rhizome and branched stem-base; stems 1 to several, tufted, spreading to erect, 15-60 cm tall, greenish, thinly long-hairy to nearly smooth.

Leaves: Basal leaves long-stalked, pinnately compound; leaflets 5 to 9 (11), closely crowded, egg-shaped, 1-5 cm long, cleft halfway to the midrib into lanceolate teeth, greenish and smooth on the upper surface, hairy to nearly smooth beneath; stem leaves alternate, 2 or 3.

Flowers: Inflorescence an open terminal cluster of several to many stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 6-11 mm long, shallowly notched at the tip; calyces sparsely coarse-hairy, 5-lobed, the lobes egg-shaped, alternating with 5 slightly shorter, lanceolate bractlets; ovaries superior; stamens about 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1.5 mm long, olive-brown, smooth.

Potentilla egedii **Wormskj.** (*Argentina egedii* [Wormsk.] Rydb. ssp. *egedii*, *P. anserina* L. ssp. *pacifica* [Howell] Rousi, *P. pacifica* Howell)

coast silverweed

HABITAT/RANGE:

Wet tidal marshes, estuarine meadows, brackish streambanks and moist beaches in the lowland zone; common along the coast in BC, N to AK and S to CA.

DESCRIPTION:

General: Perennial herb from a long, strawberry-like stolon or runner, rooting and producing leaf-clusters at the nodes, smooth to sparsely appressed-silky on the stolons.

Leaves: All basal, tufted, 10-40 cm long, stalked, ascending, pinnately compound; 7 to 21 main leaflets 0.5-5 cm long, interspersed with smaller ones, oblong to egg-shaped, coarsely saw-toothed, green and smooth to sparsely hairy above, silvery-silky only on the veins and white-woolly beneath, the leaf-stalks smooth to sparsely hairy.

Flowers: Inflorescence of single flowers on long naked stalks from the leafy nodes of the stolons, the stalks 5-25 cm long; corollas yellow, bowl-shaped, the petals 5, oval-oblong, 8-16 mm long; calyces silky and woolly, 5-lobed, the lobes egg-shaped, 3-10 mm long, enlarging and becoming erect in fruit, alternating with 5 shorter, sometimes toothed bractlets; ovaries superior; stamens 25 to 30.

Fruits: Achenes, numerous, plumply egg-shaped, about 2 mm long, rounded and smooth to obscurely wrinkled on the back.

Potentilla elegans **Cham. & Schlecht.**

elegant cinquefoil

HABITAT/RANGE:

Dry rocky slopes and crevices in the alpine zone; rare in N BC, known only from the Cassiar area and the Horseranch Range; amphiberingian, N to AK and NT; E Asia.

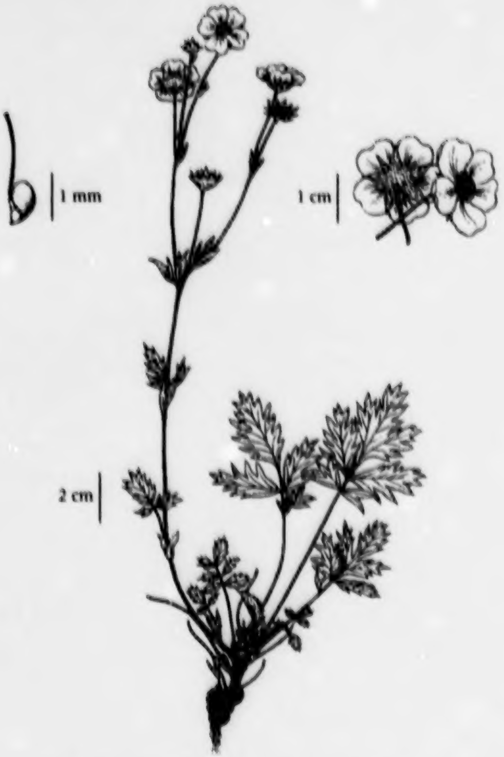
DESCRIPTION:

General: Dwarf perennial herb from a much-branched stem-base covered with reddish-brown remains of leaf-bases; stems tufted, ascending to erect, 1.5-4 cm tall.

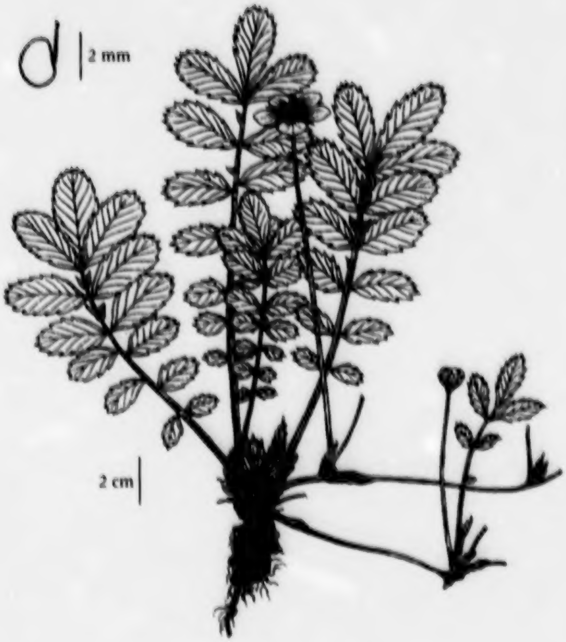
Leaves: All basal, numerous, long-stalked, palmately compound, 1-2 cm long; leaflets 3, broadly egg-shaped, 2-8 mm long, deeply cleft to about the middle into linear-oblong segments except toward the base, green on both surfaces, sparsely short-hairy and glandular to nearly smooth.

Flowers: Inflorescence of single stalked flowers, barely overtopping the leaves; corollas pale yellow, saucer-shaped, the petals 5, heart-shaped, 2-4 mm long, notched at the tip; calyces often soft-hairy and fine-glandular, 5-lobed, the lobes lance-oblong, 2-2.5 mm long, somewhat purplish, alternating with 5 shorter, oblong bractlets; ovaries superior; stamens 20.

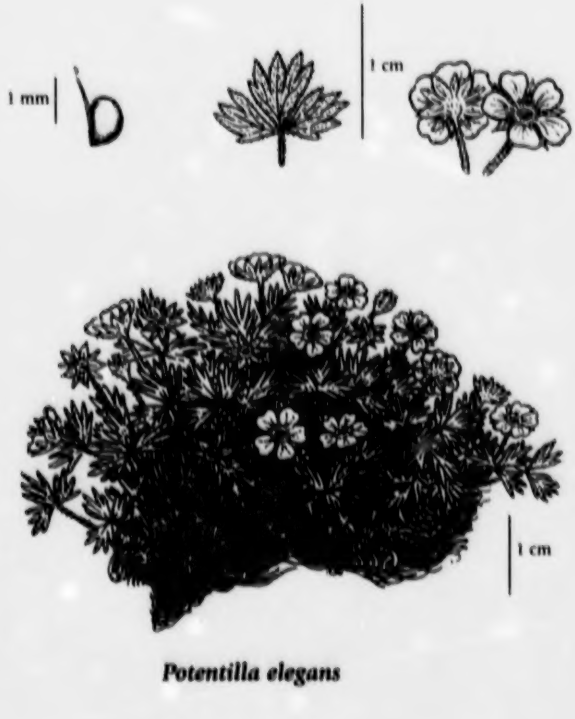
Fruits: Achenes, several, clustered, lopsided-egg-shaped, 1-1.5 mm long.


b
1 mm
1 cm
2 cm

Potentilla drummondii ssp. *drummondii*



Potentilla egedii


1 mm
b
1 cm
1 cm

Potentilla elegans

Potentilla flabellifolia **Hook. *ex* T. & G.**

fan-leaved cinquefoil

HABITAT/RANGE:

Moist meadows, heath and scree slopes in the montane to alpine zones; locally frequent in the Coast-Cascade Mountains south of 51 °N, rare in extreme SC BC; E to SW AB and S to MT, ID and CA.

DESCRIPTION:

General: Perennial herb from a creeping rhizome and branched stem-base; stems several, tufted, ascending to erect, 10-30 cm tall, nearly smooth to short-hairy.

Leaves: Basal leaves numerous, long-stalked, palmately compound; leaflets 3, wedge- to fan-shaped, 1-3 cm long, unevenly and deeply blunt-toothed except at the base, green on both surfaces, smooth to slightly hairy; stem leaves alternate, 1 or 2.

Flowers: Inflorescence a leafy-bracted terminal cluster of few (1 to 5) stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 6-10 mm long, notched at the tip; calyces often glandular, 5-lobed, the lobes lance-triangular, alternating with 5 slightly shorter, oval bractlets entire or 2- or 3-toothed at the tip; ovaries superior, the styles not warty at the base; stamens about 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1.5 mm long, dark, smooth.

Potentilla glandulosa **Lindl.**

sticky cinquefoil

HABITAT/RANGE:

Dry to moist meadows, thickets, rocky slopes and open forests in the steppe and montane zones; frequent in S BC north to approximately 53°N, except rare on the coast; E to SW AB and S to MT, CO, CA and MX.

DESCRIPTION:

General: Perennial herb from a rhizome and branched stem-base; stems several, simple, erect, 10-60 cm tall, glandular-hairy or with mixed glandular and non-glandular hairs.

Leaves: Basal leaves several, long-stalked, pinnately compound; leaflets 5 to 9, fan- to diamond- or egg-shaped, 1-3 (5) cm long, 1- or 2-times saw-toothed, greenish and glandular-hairy to nearly smooth on both surfaces; stem leaves alternate, few, reduced upward.

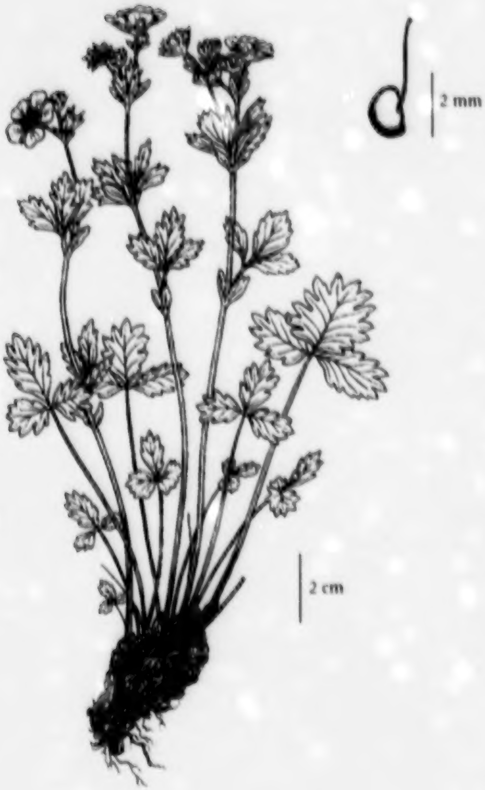
Flowers: Inflorescence a spreading to compact, terminal cluster of several stalked flowers; corollas yellow to cream or whitish, bowl-shaped, the petals 5, more or less egg-shaped, 5-9 mm long; calyces glandular-hairy, 5-lobed, the lobes lance-egg-shaped, 4-8 mm long, alternating with 5 shorter, narrower bractlets; ovaries superior, the styles spindle-shaped and glandular-roughened; stamens 25 or more.

Fruits: Achenes, numerous, lopsided-egg-shaped, about 1 mm long, smooth or somewhat ridged.

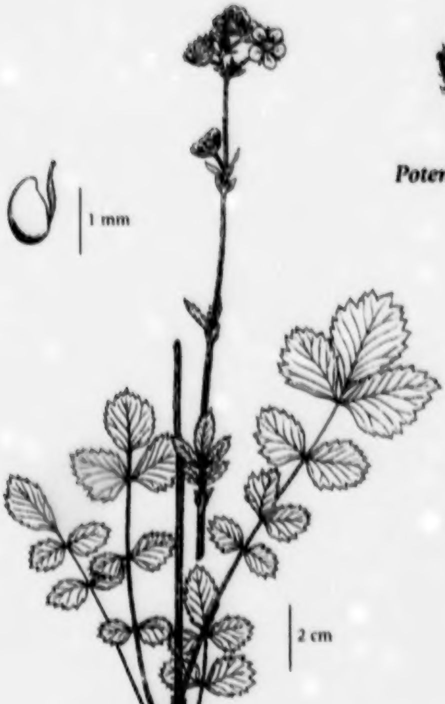
Notes: Two sympatric varieties occur in BC:

1. **Petals shorter than or as long as sepals, often narrowly egg-shaped to lanceolate; stems and leaves usually with all hairs glandular** .... **var. *glandulosa***

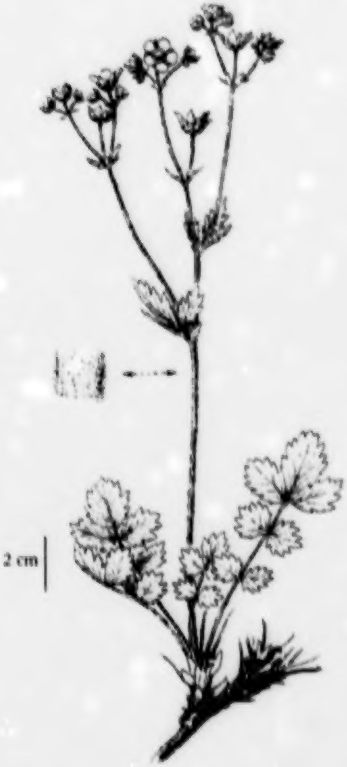
1. **Petals longer than sepals, broadly egg-shaped; stems and leaves often with many non-glandular hairs** .... **var. *pseudorupestris* (Rydb.) Breitung**



Potentilla flabellifolia



Potentilla glandulosa var. *glandulosa*



Potentilla glandulosa var. *pseudorupestris*

Potentilla gracilis **Dougl.** (*P. gracilis* var. *permollis* (Rydb.) C.L. Hitchc., *P gracilis* var. *glabrata* (Lehm.) C.L. Hitchc. = var. *fastigiata*)

graceful cinquefoil

HABITAT/RANGE:

Dry to moist meadows, grasslands, rocky slopes, open forests, and roadsides and waste places in the lowland to montane zones; common in S BC except rare on the coast (var. *gracilis*), rare in BC N of 55°N; N to AK, E to SK and S to CA and MX.

DESCRIPTION:

General: Perennial herb from a thick, scaly, branched stem-base; stems several, tufted, erect or decumbent at the base, 30-80 cm tall, often branched, appressed- to spreading-hairy.

Leaves: Basal leaves long-stalked, palmately compound; leaflets 5 to 7 (9), lanceolate to oblong-elliptic, (2) 3-8 (10) cm long, coarsely saw-toothed to deeply lobed, greenish and variously hairy (most often spreading-hairy to woolly-hairy, sometimes also glandular, sometimes nearly smooth) above, usually paler and hairier, often white-woolly beneath; stem leaves alternate, reduced, 1 or 2.

Flowers: Inflorescence an open, somewhat flat-topped, terminal cluster of several to many stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 6-10 mm long, shallowly notched at the tip; calyces hairy, 5-lobed, the lobes broadly lanceolate, 4-7 mm long, alternating with 5 shorter, narrowly lanceolate bractlets; ovaries superior; stamens 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, 1-2 mm long, greenish, smooth to faintly net-veined.

Notes: Three varieties occur in BC:

1. Leaflets cleft at least 2/3 of the way to the midvein, the segments usually linear and greyish- or whitish-hairy beneath .... var. *flabelliformis* (Lehm.) Nutt. *ex* T. & G.

1. Leaflets cleft no more than 2/3 of the way to the midvein, the segments usually lanceolate and often greenish beneath.

    2. Lower surface of leaves white-woolly, much lighter than the upper surface .... var. *gracilis*

    2. Lower surface of the leaves variously hairy but rarely woolly, usually greenish, not much lighter than the upper surface .... var. *fastigiata* (Nutt.) S. Wats.

Potentilla hippiana **Lehm. var. *hippiana***

woolly cinquefoil

HABITAT/RANGE:

Dry open forests, grasslands and sagebrush scrub in the steppe and montane zones; infrequent in BC east of the Coast-Cascade Mountains; E to SK and S to NM and AZ.

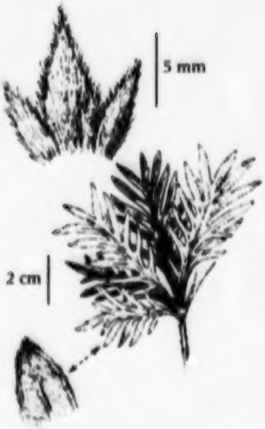
DESCRIPTION:

General: Perennial herb from a stout branched stem-base covered with brown remains of old leaf-bases; stems 1 to several, tufted, spreading to erect, 15-50 cm tall, usually branched above, white-woolly and silvery-silky.

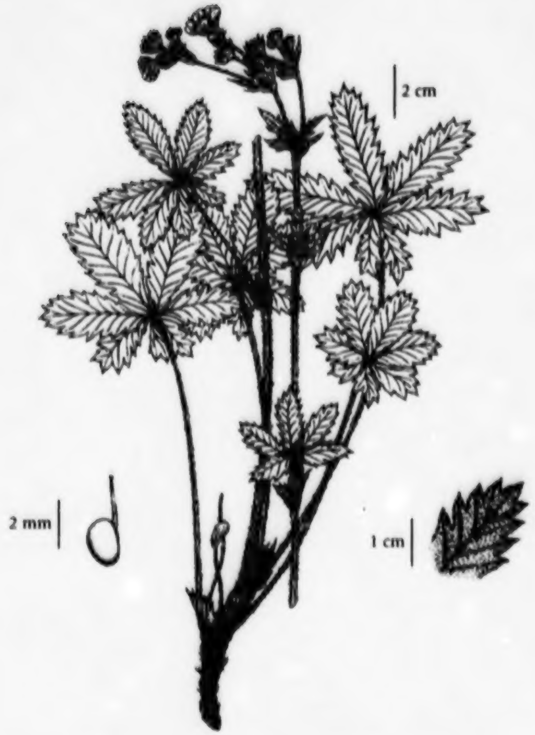
Leaves: Basal leaves stalked, pinnately compound; leaflets 5 to 11, oblong, 2-5 cm long, coarsely sharp-toothed not more than halfway to the midrib, white-woolly or silvery-silky on both surfaces or greenish above; stem leaves alternate, 2 to 5, reduced upwards.

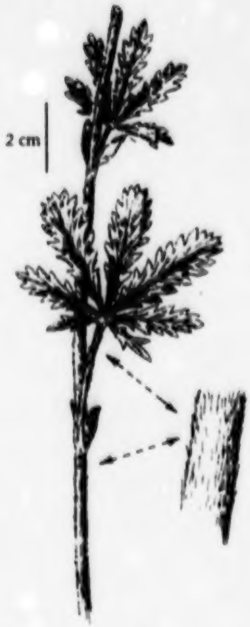
Flowers: Inflorescence an open, terminal cluster of several to many stalked flowers; corollas yellow, bowl-shaped, the petals 5, egg-shaped, 4-8 mm long, shallowly notched or rounded at the tip; calyces woolly- and coarse-hairy, 5-lobed, the lobes lance-egg-shaped, slightly shorter than the petals, alternating with 5 narrowly lanceolate bractlets about the same length as the calyx-lobes; ovaries superior; stamens usually 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, 1.5 mm long, smooth.



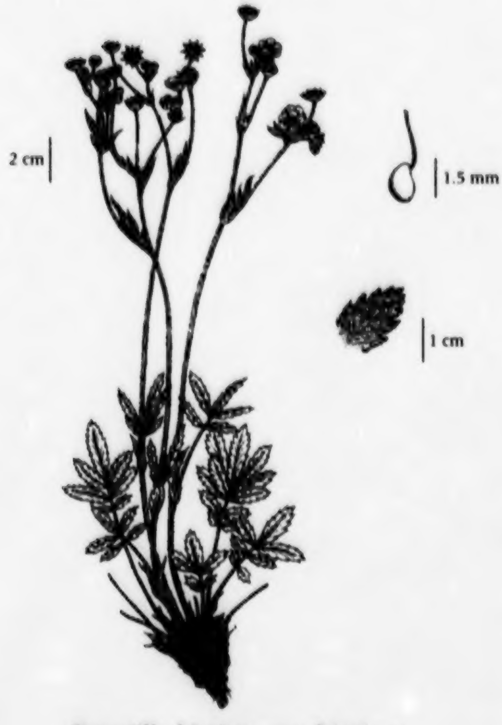
var. *flabelliformis*





var. *fastigiata*

Potentilla gracilis **var. *gracilis***


2 cm
1.5 mm
1 cm

Potentilla hippiana **var. *hippiana***

Potentilla hookeriana* Lehm. ssp. *hookeriana

Hooker's cinquefoil

Habitat/Range:

Dry to mesic, open rocky slopes and outcrops, gravel bars and tundra in the montane to alpine zones; infrequent in BC east of the Coast-Cascade Mountains; amphiberingian, N to AK and E to SK; Siberia.

Description:

General: Perennial herb from a short rhizome and branched stem-base; stems few to several, loosely tufted, ascending to erect, 10-40 cm tall, short-curly-hairy and spreading-long-hairy but not woolly.

Leaves: Basal leaves few, palmately compound, the stalks spreading-soft-hairy but not woolly; leaflets 3 (to 5), egg- to wedge-shaped, 0.5-2 cm long, deeply sharp-toothed, greenish and sparsely appressed-hairy above, white-woolly and rarely also long-hairy beneath; stem leaves alternate, 1 or 2, unstalked, reduced upward.

Flowers: Inflorescence a loose open cluster of 2 to 7 stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 4-7 mm long, shallowly notched at the tip; calyces silky-hairy, 5-lobed, the lobes lanceolate, 3-4 mm long, alternating with 5 linear-lanceolate bractlets shorter than the calyx-lobes; ovaries superior, the styles warty-thickened at the base; stamens usually 20.

Fruits: Achenes, several to many, clustered, lopsided-egg-shaped, about 1 mm long, smooth.

***Potentilla intermedia* L.**

intermediate cinquefoil

Habitat/Range:

Dry to moist disturbed ground, roadsides and waste places in the lowland and montane zones; locally frequent in SE BC, rare in SW BC (Sechelt Peninsula) and Vancouver area; introduced from Eurasia.

Description:

General: Biennial or perennial herb from a thick stem-base; stems several, tufted, ascending, 20-50 cm tall, branched, greyish-soft-hairy.

Leaves: Basal leaves long-stalked, palmately compound; leaflets mostly 5, narrowly egg-shaped, 1-4 cm long, deeply toothed, greenish and soft-hairy on both surfaces or densely hairy and greyish beneath; stem leaves alternate, with 3 leaflets and becoming unstalked upward.

Flowers: Inflorescence a loose, leafy, terminal cluster of many stalked flowers, the stalks soft-hairy; corollas yellow, bowl-shaped, the petals 5, egg-shaped, slightly notched at the tip, 3-5 mm long; calyces long-hairy, 5-lobed, the lobes egg-shaped, as long as or somewhat longer than the petals, alternating with 5 bractlets; ovaries superior, the styles thickened and glandular-warty at the base.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1 mm long, wrinkled lengthwise.

***Potentilla nana* Willd. *ex* Schlecht.** (*P. hyparctica* Malte, *P. hyparctica* ssp. *nana* [Willd.] Hult.)

arctic cinquefoil

Habitat/Range:

Dry to moist meadows, tundra and scree slopes in the alpine zone; frequent in N BC, rare S to about 50°N; circumpolar, N to AK and E to NF and PQ.

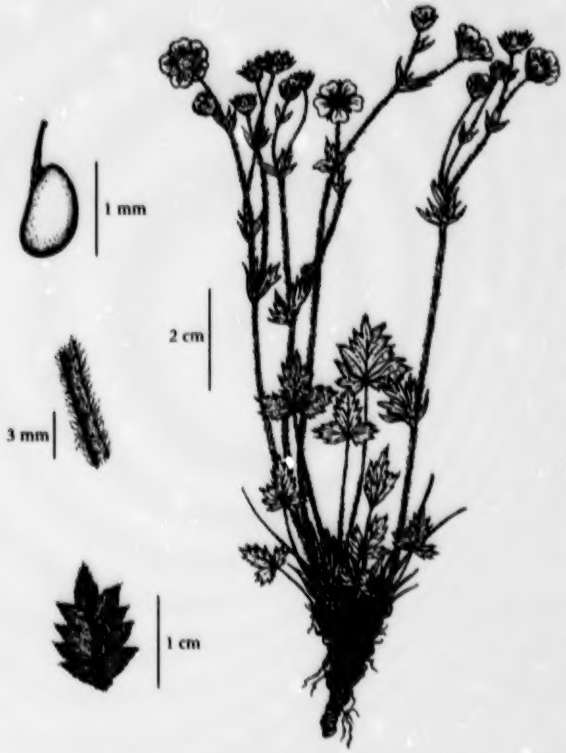
Description:

General: Perennial herb from a stout branched stem-base covered with reddish-brown remains of old leaf-bases; stems several, densely tufted, decumbent to ascending or erect, 5-10 (25) cm tall, spreading-long-hairy.

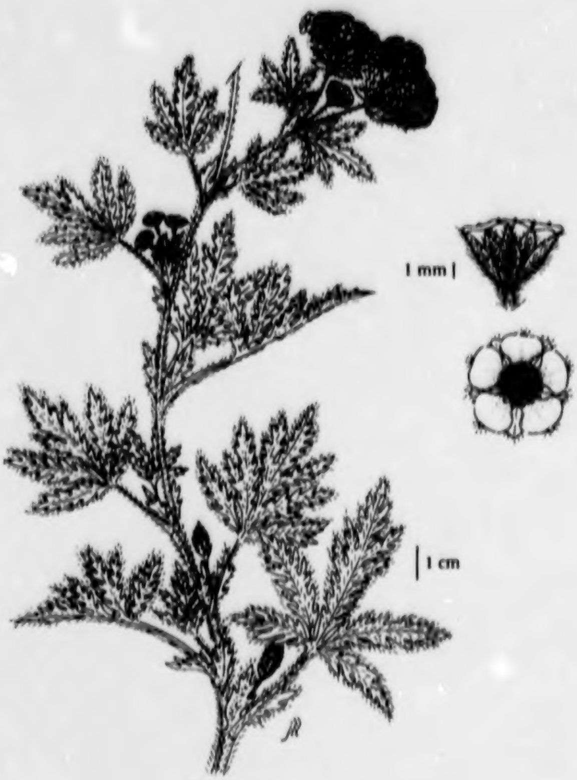
Leaves: Basal leaves several, palmately compound, long-stalked, the stalks spreading-hairy; leaflets 3, broadly egg-shaped, 0.5-2 cm long, coarse-toothed to near the base, green and long-hairy to smooth above, paler and usually soft-hairy beneath; stem leaves alternate, 1 or 2, unstalked, reduced.

Flowers: Inflorescence of 1 to 3 stalked, terminal flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 5-8 mm long, notched at the tip; calyces soft-hairy, 5-lobed, the lobes lanceolate, 4-7 mm long, alternating with 5 slightly shorter, lance-oblong bractlets; ovaries superior; stamens about 20.

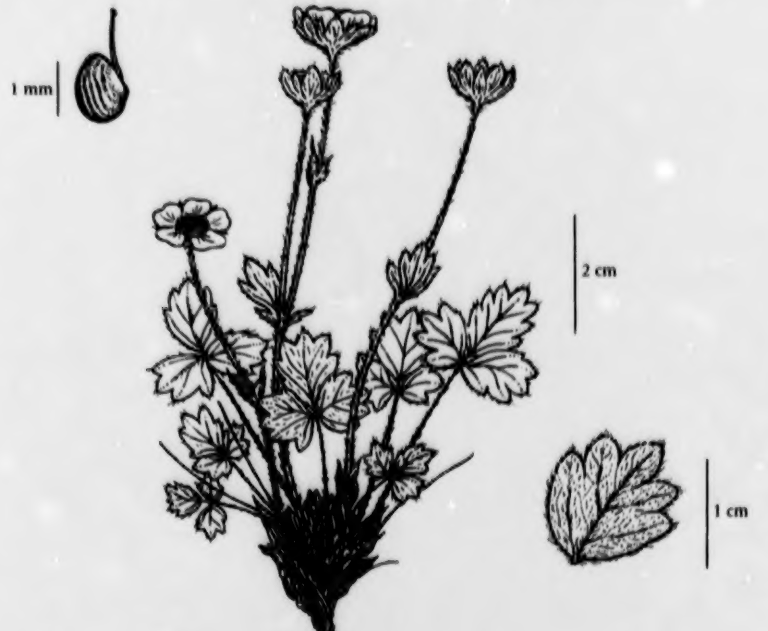
Fruits: Achenes, several, clustered, lopsided-egg-shaped, 1-1.5 mm long, greenish, with a few longitudinal wrinkles.


1 mm
2 cm
3 mm
1 cm

Potentilla hookeriana ssp. *hookeriana*



Potentilla intermedia



Potentilla nana

Potentilla nivea **L.** (*P. quinquefolia* [Rydb.] Rydb. = var. ***pentaphylla***)

snow cinquefoil

HABITAT/RANGE:

Dry to mesic open grassy slopes, meadows, tundra, rock outcrops and sandy or gravelly benches in the montane to alpine zones; common (var. *nivea*) or rare (var. *pentaphylla*) throughout BC, east of the Coast-Cascade Mountains; circumboreal, N to AK, E to PQ and S to NV and CO; Greenland, Eurasia.

DESCRIPTION:

General: Perennial herb from a short rhizome and branched stem-base; stems few to several, loosely tufted, ascending to erect, 5-30 cm tall, woolly-hairy and often also cobwebby, rarely long-soft-hairy as well (var. pentaphylla).

Leaves: Basal leaves few to numerous, palmately to somewhat pinnately compound, the stalks cobwebby-woolly; leaflets 3 to 5, egg-shaped to oblong, 0.5-3 cm long, coarsely blunt-toothed or cleft halfway to the midrib, greenish and silky-hairy above, white-woolly and rarely also long-hairy beneath; stem leaves alternate, 1 or 2, short-stalked or unstalked, reduced upwards.

Flowers: Inflorescence a compact to open cluster of 1 to 9 stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 4-7 mm long, shallowly notched at the tip; calyces silky-hairy to somewhat woolly, 5-lobed, the lobes lanceolate, 3-5 mm long, alternating with 5 linear-lanceolate bractlets shorter than the calyx-lobes; ovaries superior, the styles warty-thickened at the base; stamens usually 20.

Fruits: Achenes, several to many, clustered, lopsided-egg-shaped, smooth, 1-2 mm long.

Notes: Two varieties occur in BC:

1. Leaflets 3, coarsely toothed; the more common variety .... var. *nivea*

1. Leaflets 3 to 5, cleft halfway to midrib; rare in BC east of the Coast-Cascade Mountains .... var. *pentaphylla* Lehm.

Potentilla norvegica **L.**

Norwegian cinquefoil; rough cinquefoil

HABITAT/RANGE:

Moist to wet meadows, clearings, roadsides, waste places and burns in the lowland to montane zones; common throughout BC, except rare north of 55°N (probably introduced along the coast); circumboreal, N to AK, E to NF and S to NC, TX and CA; Greenland, Eurasia.

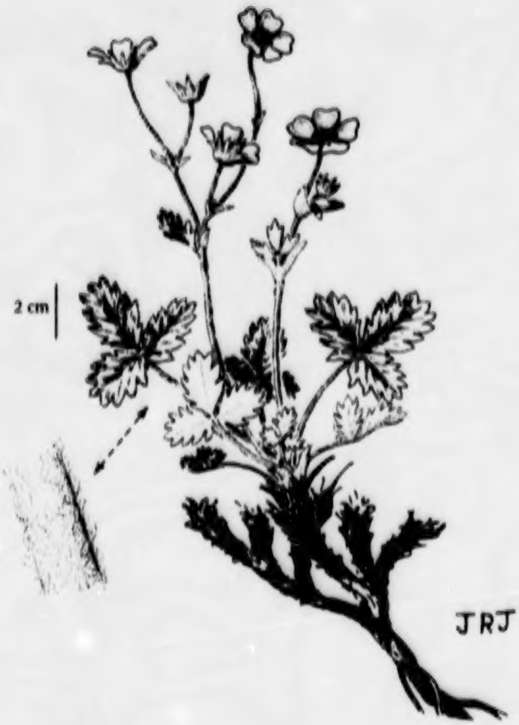
DESCRIPTION:

General: Annual to biennial herb from a taproot; stems erect to ascending, 10-80 cm tall, sometimes branched above, leafy, coarsely stiff-spreading-hairy with often pustular-based hairs, often reddish.

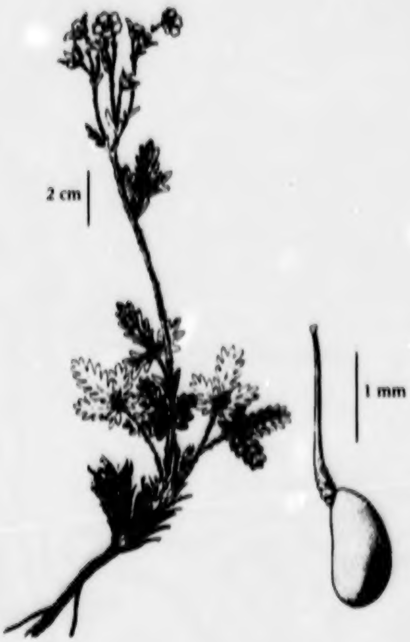
Leaves: Basal leaves few, long-stalked, palmately compound; leaflets 3, egg-shaped to oblong, 1-6 (8) cm long, coarsely round-toothed, coarse-hairy on both surfaces, paler beneath; stem leaves alternate, similar, several.

Flowers: Inflorescence a compact, leafy-bracted, terminal cluster of several to many stalked flowers; corollas yellow or whitish-yellow, saucer-shaped, the petals 5, broadly egg-shaped, shorter than the calyx-lobes; calyces hairy, 5-lobed, the lobes lanceolate, 4-6 mm long, alternating with 5 narrower bractlets about the same length as the calyx-lobes; ovaries superior, the styles thickened at the base; stamens usually 20.

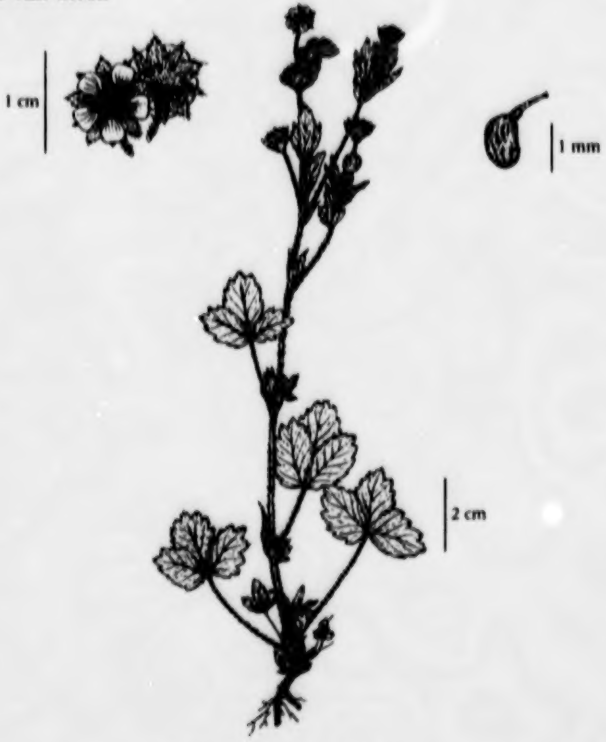
Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1 mm long, brown, strongly wavy-wrinkled.



Potentilla nivea var. *nivea*



Potentilla nivea var. *pentaphylla*



Potentilla norvegica

Potentilla ovina* Macoun *ex* J. Macoun var. *ovina

sheep cinquefoil

HABITAT/RANGE:

Moist meadows to dry open rocky slopes in the montane and subalpine zones; rare in SC (Chilcotin) and extreme SE BC; E to SK and S to CO, NM and CA.

DESCRIPTION:

General: Perennial herb from a short thick rhizome and stout branched stem-base covered with brown remains of old leaf-bases; stems 1 to several, tufted, spreading to erect, 5-15 (25) cm tall, appressed-hairy.

Leaves: Basal leaves crowded, short-stalked, pinnately compound; leaflets 7 to 21, rather crowded, 0.5-1 cm long, deeply cleft nearly to the base into linear-oblong lobes, greyish-green and silky-hairy on both surfaces, sometimes underlain by crinkly hairs.

Flowers: Inflorescence an open terminal cluster of 1 to 6 stalked flowers; corollas yellow, bowl-shaped, the petals 5, egg-shaped, 5-7 mm long, shallowly notched at the tip; calyces hairy and sometimes weakly glandular, 5-lobed, the lobes lance-triangular, 3-5 mm long, alternating with 5 shorter, narrower bractlets; ovaries superior; stamens usually 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, 1.5-2 mm long, smooth.

***Potentilla paradoxa* Nutt.**

bushy cinquefoil

HABITAT/RANGE:

Moist meadows, streambanks and lakeshores in the steppe zone; rare in SC BC; E to S ON, S to NY, KS, NM, MX and WA.

DESCRIPTION:

General: Annual, biennial, or short-lived perennial herb from a taproot and stem-base; stems stout, decumbent to ascending, 40-70 cm long/tall, leafy, from smooth below to long-hairy above.

Leaves: Basal leaves few, short-stalked, oblong-egg-shaped, pinnately compound; leaflets 5 to 11, elliptic to oblong, 1-3 cm long, coarsely round-toothed; stem leaves alternate, several to many, the middle ones larger than the basal.

Flowers: Inflorescence an open, leafy-bracted, terminal cluster of several to many stalked flowers; corollas yellow, saucer-shaped, the petals 5, broadly egg-shaped, 3-4 mm long, about as long as the calyx-lobes; calyces long-hairy, 5-lobed, the lobes triangular-egg-shaped, alternating with 5 longer narrower bractlets; ovaries superior, the styles thickened toward the base; stamens (10-15) 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped with a prominent wedge-shaped, corky crest along one edge, about 1 mm long, slightly wavy-wrinkled.

Potentilla pensylvanica* L. var. *pensylvanica (*P. bipinnatifida* Dougl. *ex* Hook. var. *glabrata* [Hook.] Kohli & Packer)

Pennsylvanian cinquefoil; prairie cinquefoil

HABITAT/RANGE:

Dry grasslands and rocky or gravelly slopes in the steppe and montane zones; frequent in C and E BC, infrequent northward; N to AK, E to NF and S to NV and MN; Greenland.

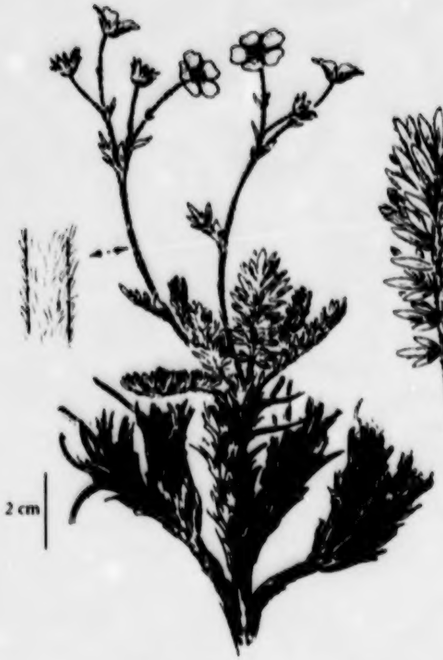
DESCRIPTION:

General: Perennial herb from a simple or branched stem-base covered with brown remains of old leaf-bases; stems slender, 1 to several, tufted, spreading to erect, 10-80 cm tall, simple or branched above, hairy and usually also thinly woolly.

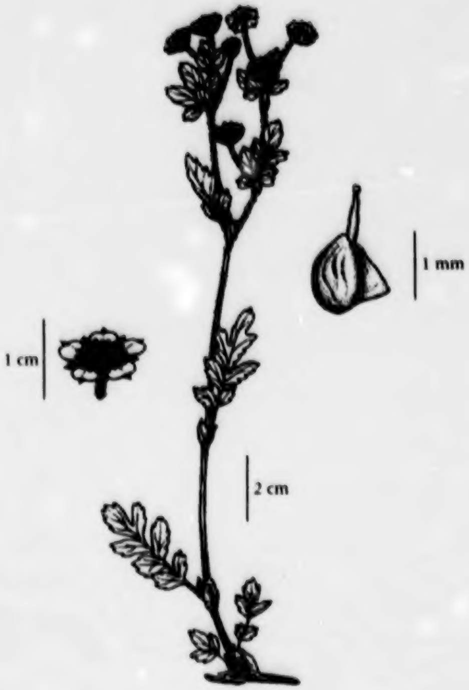
Leaves: Basal leaves stalked, pinnately compound; leaflets 7 to 11 (15), the upper 3 the largest, oblong to lanceolate, 1-5 cm long, cleft halfway or nearly to the midrib into linear-oblong lobes, grey-green and smooth to appressed-hairy on the upper surface, white-woolly to minutely appressed-hairy or nearly smooth and greenish beneath; stem leaves alternate, 3 to 4, reduced upwards.

Flowers: Inflorescence a compact, narrow, terminal cluster of few to several stalked flowers; corollas yellow, bowl-shaped, the petals 5, egg-shaped, 5-8 mm long, shallowly notched or not at the tip; calyces woolly- to appressed-hairy and more or less glandular, 5-lobed, the lobes lance-triangular, 4-7 mm long, alternating with 5 shorter, narrowly lanceolate bractlets; ovaries superior, the styles glandular-warty-thickened at the base; stamens usually 20.

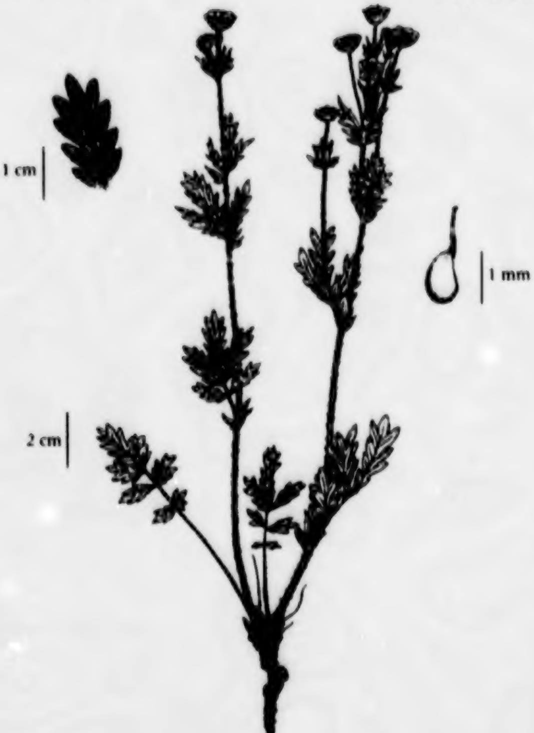
Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, 1-1.5 mm long, brown, smooth but often granular.



Potentilla ovina var. *ovina*



Potentilla paradoxa



Potentilla pensylvanica var. *pensylvanica*

Potentilla pulcherrima **Lehm.** (*P. gracilis* Dougl. var. *pulcherrima* [Lehm.] Nutt. *ex* T. & G.)
pretty cinquefoil
HABITAT/RANGE:
Dry to moist meadows, grasslands, rocky slopes, open forests, and roadsides and waste places in the montane zone; frequent in SE BC, E to AB and S to NV, AZ, NM and MX.
DESCRIPTION:

General: Perennial herb from a thick, scaly, branched stem-base; stems several, tufted, erect or decumbent at the base, 30-80 cm tall, often branched, appressed- to spreading-hairy.

Leaves: Basal leaves long-stalked, palmately to somewhat pinnately compound; leaflets 5 to 7 (9), lanceolate to oblong-elliptic, 2-8 cm long, finely, evenly and deeply saw-toothed, the teeth extending 1/5 to 1/2 the distance to the midvein, greenish and spreading-hairy above, greyish and hairier beneath; stem leaves alternate, reduced, 1 or 2.

Flowers: Inflorescence an open, somewhat flat-topped, terminal cluster of several to many stalked flowers; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 6-10 mm long, shallowly notched at the tip; calyces hairy, 5-lobed, the lobes broadly lanceolate, 4-7 mm long, alternating with 5 shorter, narrowly lanceolate bractlets; ovaries superior; stamens 20.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, 1-2 mm long, greenish, smooth to faintly net-veined.

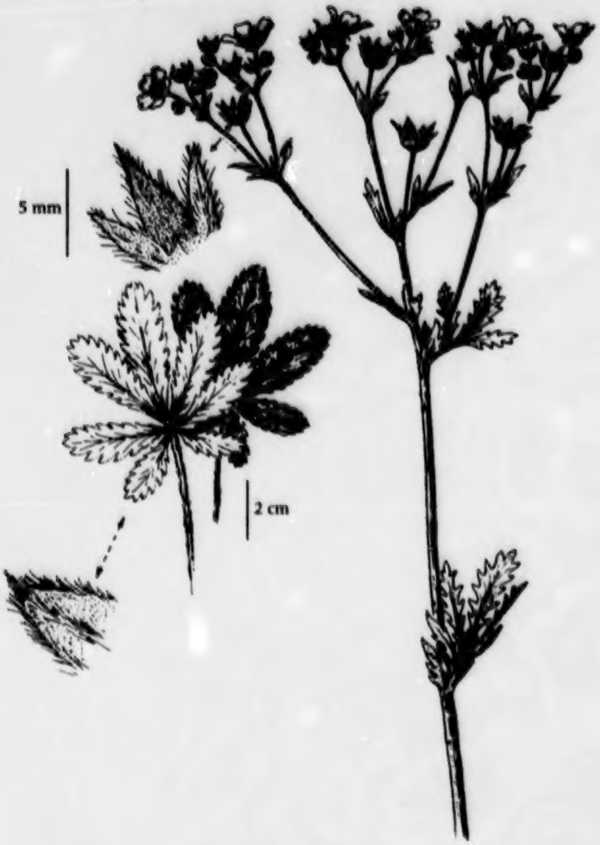
Potentilla recta **L.**
sulphur cinquefoil
HABITAT/RANGE:
Dry to moist, disturbed open ground, waste places, roadsides, pastures and overgrazed grasslands in the lowland to steppe zones; common in S BC, especially east of the Coast-Cascade Mountains; introduced from Eurasia.
DESCRIPTION:

General: Perennial herb from a thick, simple to branched stem-base; stems 1 to few, tufted, erect, very leafy, 30-70 cm tall, branched above, with both coarse and fine hairs.

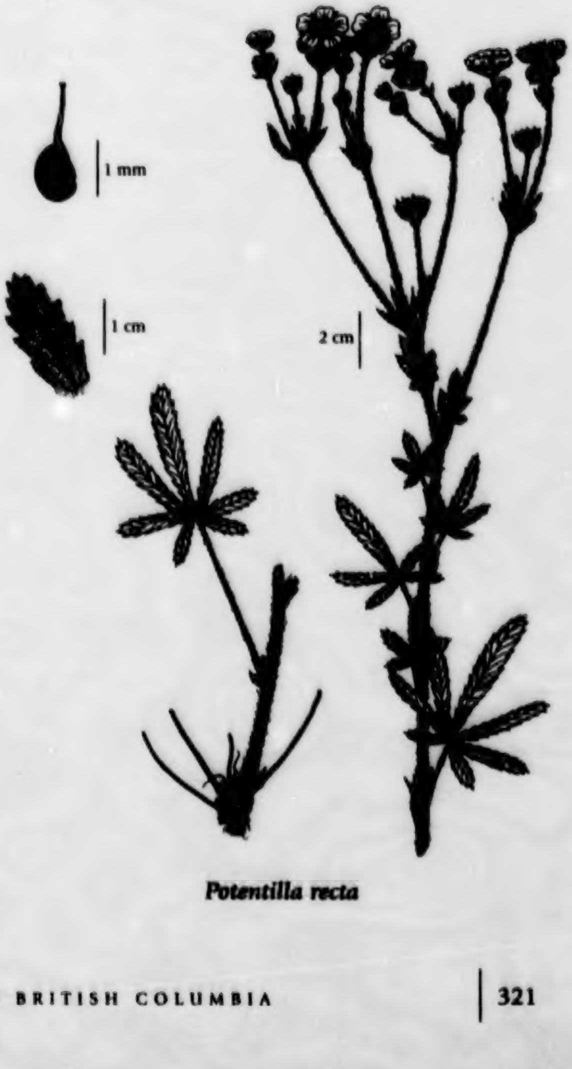
Leaves: Basal leaves few, long-stalked, palmately compound; leaflets 5 to 7, lanceolate to oblong, 3-10 cm long, deeply saw-toothed, greenish and coarse-hairy on both surfaces, prominently veined beneath; stem leaves alternate, several, similar but shorter-stalked.

Flowers: Inflorescence an open, flat-topped, terminal cluster of many stalked flowers; corollas pale yellow, bowl-shaped, the petals 5, egg-shaped, about 10 mm long, deeply notched at the tip; calyces glandular and long-hairy, 5-lobed, the lobes lance-egg-shaped, 5-9 mm long, alternating with 5 narrower bractlets about the same length as the calyx-lobes; ovaries superior, the styles glandular-warty and somewhat thickened at the base; stamens 25-30.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 1 mm long, brownish, strongly net-veined.



Potentilla pulcherrima



Potentilla recta

Potentilla rivalis **Nutt.**

brook cinquefoil

HABITAT/RANGE:

Moist to wet meadows, streambanks, lakeshores, ditches and edges of wetlands in the lowland and montane zones; infrequent in S BC east of the Coast-Cascade Mountains, rare in SW BC (where introduced); E to SK and S to MN, MO, NM and CA.

DESCRIPTION:

General: Annual to biennial herb from a taproot; stems slender, spreading to ascending, 10-50 cm long/tall, freely branched, leafy, finely spreading- to appressed-hairy or woolly.

Leaves: Basal leaves few, stalked, palmately compound; leaflets 5, oval to lance-oblong, 1-5 cm long, coarse-toothed, fine-hairy; stem leaves alternate, several, the lower similar to the basal but the upper usually with 3 leaflets.

Flowers: Inflorescence a spreading, leafy-bracted, terminal cluster of many stalked flowers; corollas yellow, cup-shaped, the petals 5, spoon-shaped, about 2 mm long, about 1/2 the length of the calyx-lobes; calyces soft-hairy, 5-lobed, the lobes triangular-egg-shaped, alternating with 5 longer narrower bractlets; ovaries superior, the styles thickened at the base; stamens 5-15.

Fruits: Achenes, numerous, clustered, lopsided-egg-shaped, about 0.7 mm long, yellowish-brown, smooth or slightly wrinkled.

Potentilla uniflora **Ledeb.** (*P. ledebouriana* Porsild, *P. vahliana* Lehm.)

one-flowered cinquefoil

HABITAT/RANGE:

Dry to mesic rock crevices and outcrops, gravelly slopes and tundra, primarily in the alpine zone; frequent throughout BC, except absent from the coast; amphiberingian, N to AK and S to CO; E Asia.

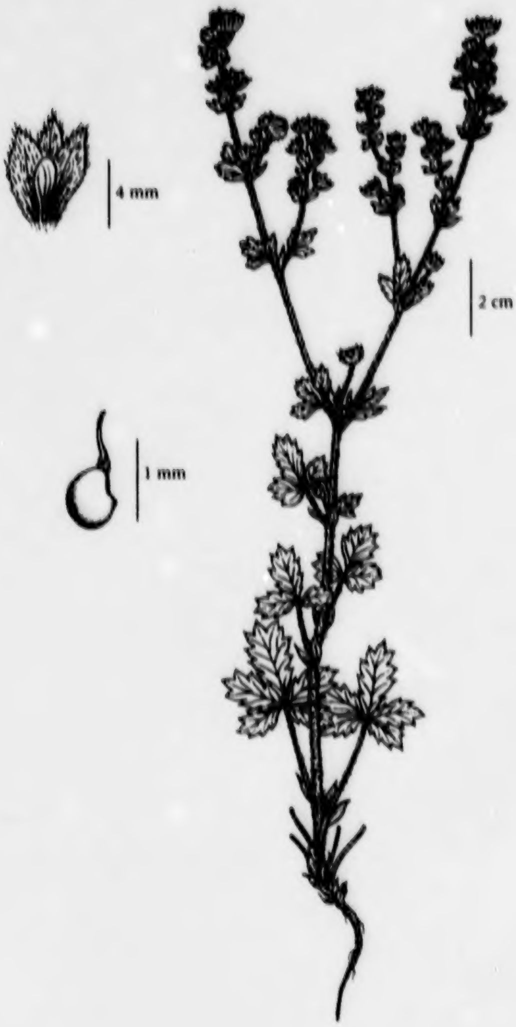
DESCRIPTION:

General: Dwarf perennial herb from a short rhizome and stout branched stem-base covered with dark-brown remains of old leaf-bases; stems several, densely tufted, ascending to erect, 2-10 (25) cm tall, usually unbranched, spreading-long-hairy and usually woolly beneath the long hairs, at least above.

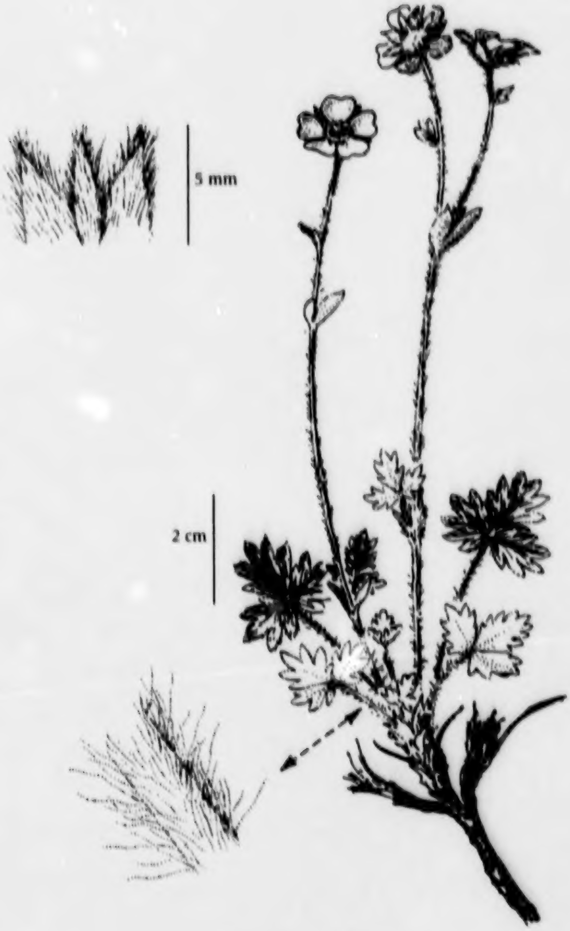
Leaves: Basal leaves several, palmately compound, stalked, the stalks spreading-soft-hairy but not minutely hairy or woolly; leaflets 3, broadly egg-shaped, 0.5-2 cm long, deeply sharp-toothed, greenish and silky to nearly smooth above, white-woolly and with overlying long silky hairs on the lower surface; stem leaves alternate, 1 or 2, unstalked, much reduced.

Flowers: Inflorescence of 1 (rarely 2 or 3) stalked, terminal flower(s); corollas yellow, bowl-shaped, the petals 5, heart-shaped, 5-10 mm long, shallowly notched at the tip; calyces silky-hairy, 5-lobed, the lobes lance-triangular, 3-6 mm long, alternating with 5 linear-oblong bractlets about as long as the calyx-lobes; ovaries superior, the styles warty-thickened at the base; stamens usually 20.

Fruits: Achenes, several to many, clustered, lopsided-egg-shaped, 1-1.5 mm long, smooth.



Potentilla rivalis



Potentilla uniflora

***Potentilla villosa* Pall. *ex* Pursh** (*P. villosa* var. *parviflora* C.L. Hitchc.)
villous cinquefoil

HABITAT/RANGE:

Dry to mesic coastal bluffs, beaches, meadows and rocky slopes in all zones; common throughout all but SC BC, especially along the coast; amphiberingian, N to AK, E to AB and S to WA; E Asia.

DESCRIPTION:

General: Perennial herb from a short rhizome and stout branched stem-base covered with dark-brown remains of old leaf-bases; stems several, tufted, ascending to erect, 5-30 cm tall, often branching above the middle, spreading-long-hairy and usually woolly beneath the long hairs, at least above.

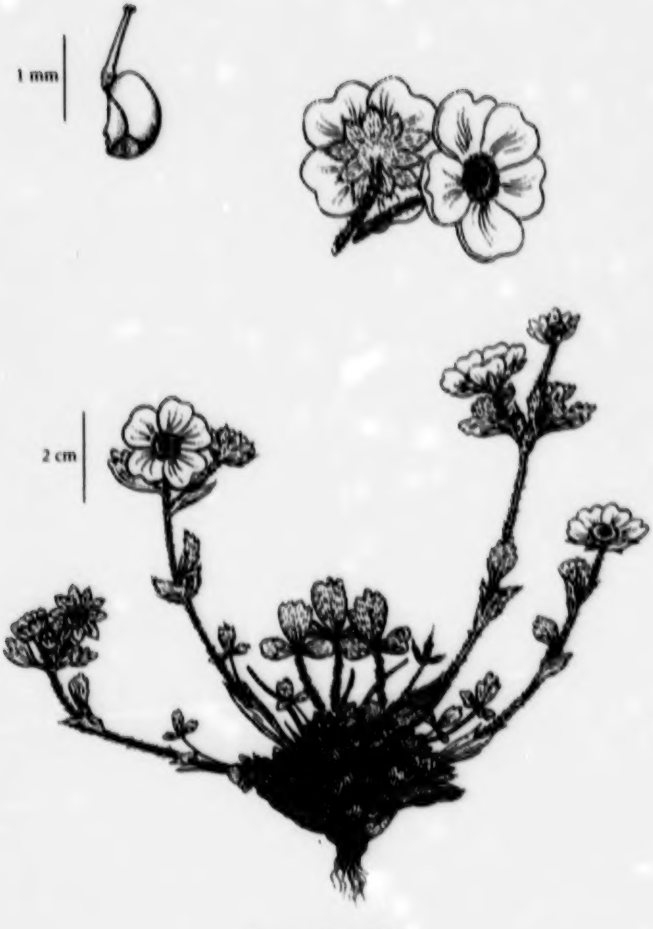
Leaves: Basal leaves several, palmately compound, stalked, the stalks long-spreading-hairy and woolly; leaflets 3, rather thick and leathery, broadly egg- to fan-shaped, 0.5-2 cm long, coarsely blunt-toothed on the upper half, greenish and silky to nearly smooth above, greyish-white-woolly and with overlying long silky hairs on the lower surface, the veins usually evident; stem leaves alternate, 1 or 2, nearly unstalked, not much reduced.

Flowers: Inflorescence of 1 to 5, stalked, terminal flowers in fairly open clusters; corollas yellow, bowl-shaped, the petals 5, heart-shaped, 5-12 mm long, shallowly notched at the tip; calyces silky-hairy, 5-lobed, the lobes triangular, 3-7 mm long, alternating with 5 elliptic-oval bractlets about as long as the calyx-lobes; ovaries superior, the styles slightly warty-thickened at the base; stamens usually 20.

Fruits: Achenes, several to many, clustered, lopsided-egg-shaped, 1-2 mm long, smooth or somewhat net-veined.

PRUNUS

1. Flowers in long cylindric clusters.
    2. Leaves thick and waxy, evergreen .... *P. laurocerasus*
    2. Leaves thinner, deciduous.
        3. Calyx-lobes sharp-pointed, mostly entire and longer than wide, persistent in fruit; leaves lance-oblong to oblong-egg-shaped, finely toothed with blunt incurved teeth .... *P. serotina*
        3. Calyx-lobes blunt, glandular-ragged-margined, often wider than long, soon deciduous; leaves elliptic to egg-shaped, finely sharp-toothed .... *P. virginiana*
1. Flowers in half-rounded or flat-topped clusters, or borne singly.
    4. Flowers in umbels or borne singly at tips of previous season's growth; flowers greater than 15 mm across; drupes longer than 10 mm.
        5. Plants spiny-twigged; flowers usually borne singly; fruiting stalks less than 1 cm long .... *P. spinosa*
        5. Plants not spiny-twigged; flowers usually in umbels; fruiting stalks much greater than 1 cm long .... *P. avium*
    4. Flowers in corymbs on common axis of current season's growth; flowers 10-15 mm across; drupes 4-12 mm long.
        6. Inflorescences leafy-bracted at base .... *P. mahaleb*
        6. Inflorescences not leafy-bracted at base.
            7. Leaves gradually tapering to long-pointed tip, irregularly fine-saw-toothed; leaf-stalks mostly 1-2 cm long, usually with two glands at top; fruits red, 4-8 mm long .... *P. pensylvanica*
            7. Leaves rounded or blunt to sometimes sharp-pointed at the tip, uniformly fine-round-toothed; leaf-stalks mostly less than 1 cm long, usually lacking glands; fruits red to black, 8-12 mm long .... *P. emarginata*



Potentilla villosa

Prunus avium **L.**

sweet cherry

HABITAT/RANGE:

Mesic to moist forest edges and fields in the lowland zone; infrequent in S BC; introduced from Eurasia.

DESCRIPTION:

General: Tree, 5-25 m tall, mostly smooth throughout; bark reddish-brown, peeling in horizontal strips, with prominent horizontal lenticels.

Leaves: Alternate, deciduous, oblong-egg-shaped, 6-15 cm long, saw-toothed, gradually tapering to a sharp-pointed tip, smooth above, sometimes downy-hairy beneath; leaf-stalk with 1 or 2 conspicuous reddish glands at the top.

Flowers: Inflorescence a loose umbel-like cluster, on a short lateral spur-shoot, of 2 to 6 long-stalked flowers; corollas white, bowl-shaped, 15-30 mm across, the petals 5, egg-shaped, squared-off or notched at the tip, 8-15 mm long; calyces 5-lobed, the lobes entire; ovaries superior.

Fruits: Fleshy drupes with a large stone (cherries), nearly globe-shaped, 15-25 mm long, on stalks about 2.5 cm long, yellow becoming bright to dark red; seeds 1.

Prunus emarginata **(Dougl.)Walp.**

bitter cherry

HABITAT/RANGE:

Moist open forests, thickets, rocky slopes and streambanks in the lowland, steppe and montane zones; common in southwestern BC, disjunct in WC BC, infrequent in S BC east of the Coast-Cascade Mountains; S to CA and E to MT, WY and AZ.

DESCRIPTION:

General: Shrub or small tree, 2-15 m tall, sometimes thicket-forming, smooth to densely hairy throughout; bark reddish-brown or grey, with horizontal lenticels.

Leaves: Alternate, deciduous, elliptic to egg-shaped or lanceolate, 3-8 cm long, finely round-toothed, rounded or blunt to sometimes sharp-pointed at the tip, wedge-shaped to pointed at the base, densely hairy (at least below) to smooth; leaf stalks 5-12 mm long, usually lacking small glands at the top.

Flowers: Inflorescences short, rounded to flat-topped clusters, at the ends of short spur-shoots, of 3 to 10 stalked flowers; corollas white, saucer-shaped, the petals 5, egg-shaped, 5-7 mm long, often hairy on the lower surface; calyces smooth to coarse-hairy, 5-lobed, the oblong lobes about 2 mm long; ovaries superior; stamens about 20.

Fruits: Fleshy drupes with a large ellipsoid stone (cherries), egg- to globe-shaped, 8-12 mm long, bright red to purple; seeds 1.

Notes: The more typical tree-like plants from coastal areas have been given the varietal name *mollis* (Dougl.) Brew.

Prunus laurocerasus **L.**

cherry-laurel

HABITAT/RANGE:

Mesic to moist open forests, forest edges, clearings and disturbed sites in the lowland zone; rare in SW BC; introduced from Eurasia.

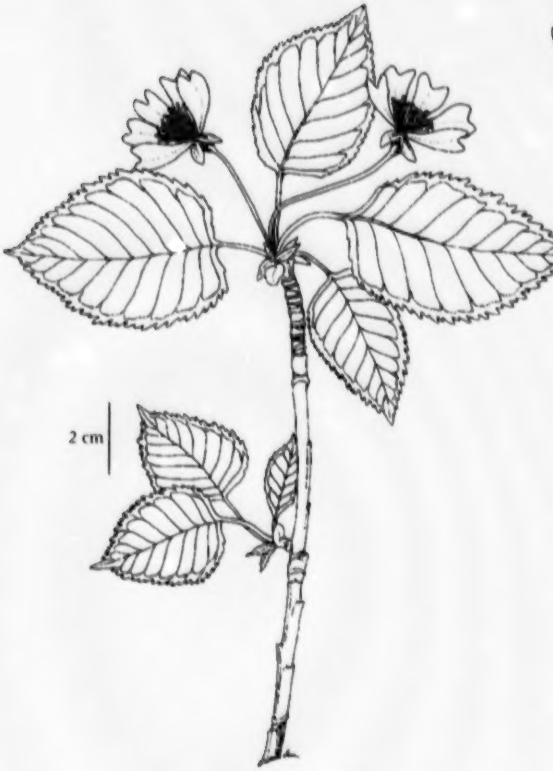
DESCRIPTION:

General: Medium to tall shrub, occasionally a small tree, 2-6 m tall; twigs green, smooth.

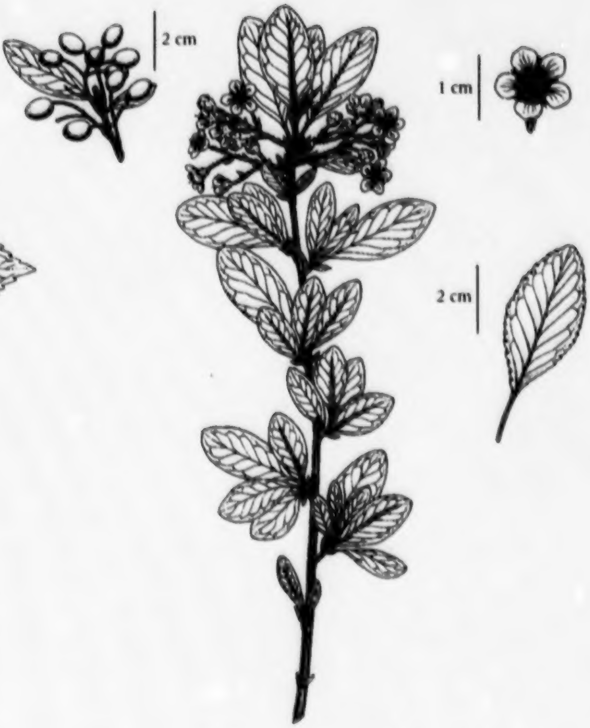
Leaves: Alternate, evergreen, thick and waxy, oblong, 7-20 cm long, remotely fine-toothed, usually abruptly short-pointed at the tip, short-stalked.

Flowers: Inflorescence an ascending cylindric cluster of several to many stalked flowers; corollas white, saucer-shaped, about 1 cm across, the petals 5, egg-shaped, 3-4 mm long; calyces 5-lobed, the lobes very short, 3-toothed; ovaries superior.

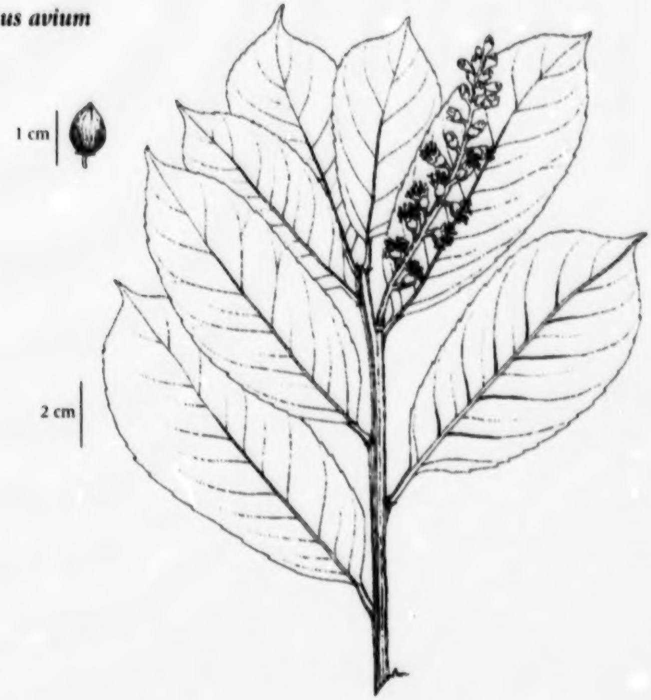
Fruits: Fleshy drupes with a large stone (cherries), conic, about 10-15 mm long, purplish-black; seeds 1.



Prunus avium



Prunus emarginata



Prunus laurocerasus

Prunus mahaleb **L.**

Mahaleb cherry

HABITAT/RANGE:

Mesic to moist fields and waste places in the steppe zone; rare in SC BC; introduced from Europe.

DESCRIPTION:

General: Shrub to small tree, to 10 m tall; branches thin, hard, hairy when young then smooth; twigs green.

Leaves: Alternate, deciduous, broadly egg-shaped, 4-7 cm long, finely glandular-toothed, abruptly short-pointed at the tip; leaf stalks short, often with 1 or 2 glands near the top.

Flowers: Inflorescence a short, more or less flat-topped cluster, at the end of a leafy spur-shoot, of several to many stalked flowers; corollas white, bowl-shaped, 1-2 cm across, the petals 5; calyces 5-lobed; ovaries superior.

Fruits: Fleshy drupes with a large stone (cherries), egg-shaped, about 7 mm long, long-stalked, black; seeds 1.

Prunus pensylvanica **L.f.**

pin cherry; bird cherry

HABITAT/RANGE:

Dry to moist, open forests, thickets, rocky slopes, sandy or gravelly benches and clearings in the steppe and montane zones; frequent in BC south of 56°N, east of the Coast-Cascade Mountains; E to NF and S to VA and CO.

DESCRIPTION:

General: Shrub to small tree, 1-5 (10) m tall, sometimes thicket-forming; bark reddish-brown, peeling in horizontal strips, with prominent lenticels.

Leaves: Alternate, deciduous, lanceolate to narrowly egg-shaped or elliptic, 3-8 (10) cm long, finely saw-toothed, gradually tapering to long point at tip, rounded to pointed at the base, smooth; leaf stalks (5) 10-20 mm long, with 1 or 2 small glands near the top.

Flowers: Inflorescences short, half-rounded to nearly flat-topped, umbel-like clusters, at the ends of short spur-shoots, of 4 to 12 stalked flowers; corollas white, saucer-shaped, the petals 5, egg-shaped, about 6 mm long, usually long-hairy on the back near the base; calyces smooth, 5-lobed, the lance-oblong lobes 2-3 mm long; ovaries superior; stamens about 30.

Fruits: Fleshy, large-stoned drupes (cherries), ellipsoid to globe-shaped, 4-8 mm long, bright red; seeds 1.

Prunus serotina **Ehrh.**

black cherry

HABITAT/RANGE:

Mesic to moist clearings, forest edges and open forest in the lowland zone; rare in the Vancouver area; introduced from eastern North America.

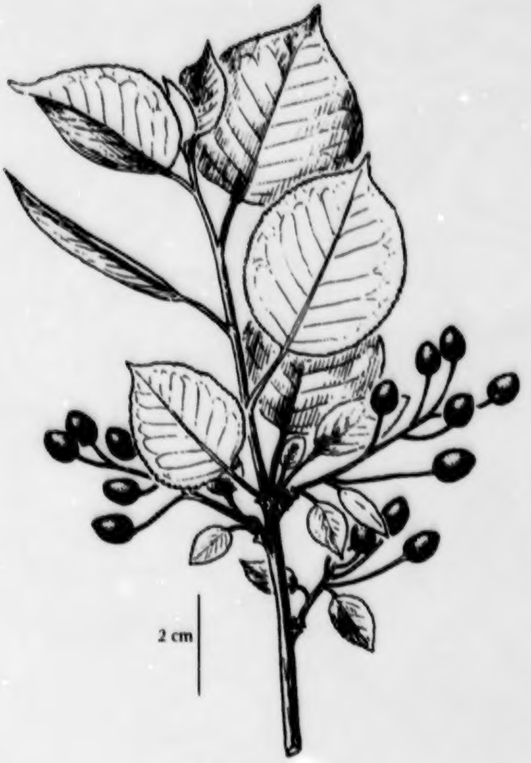
DESCRIPTION:

General: Tree to 25 m tall; twigs reddish-brown; bark smooth with conspicuous lenticels on young stems, with age scaly-roughened, breaking up into small plates or coming off in curved strips.

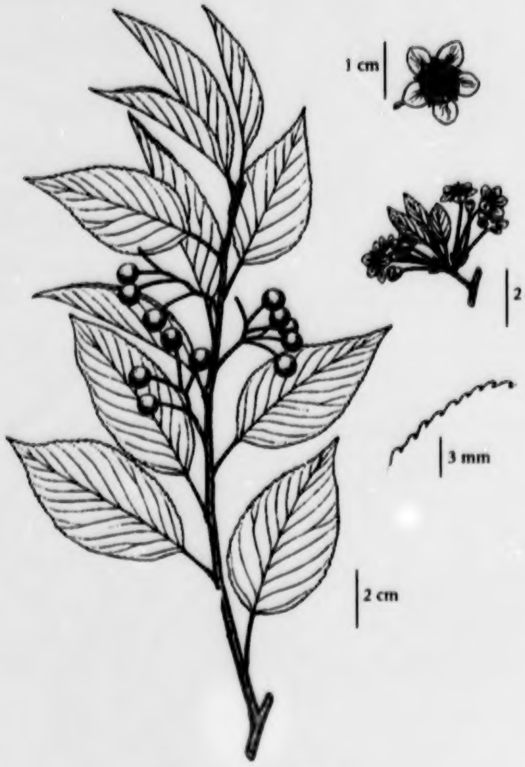
Leaves: Alternate, deciduous, lance-oblong to oblong-egg-shaped, 5-12 cm long, finely toothed with blunt incurved teeth, long-tapering to a slender, sharp-pointed tip, blunt to pointed at the base, dark green above, paler and usually hairy along the midvein beneath.

Flowers: Inflorescence a long (6-15 cm) bottlebrush-like cluster, at the end of a short leafy spur-shoot, of numerous stalked flowers; corollas white, saucer-shaped, the petals 5, nearly circular, about 4 mm long; calyces glabrous, 5-lobed, the oval lobes sharp-pointed, mostly entire, 1-1.5 mm long, persistent under the fruit; ovaries superior; stamens about 25.

Fruits: Fleshy drupes with a large stone (cherries), globe-shaped, 7-10 mm long, shiny, dark purple or black; seeds 1.



Prunus mahaleb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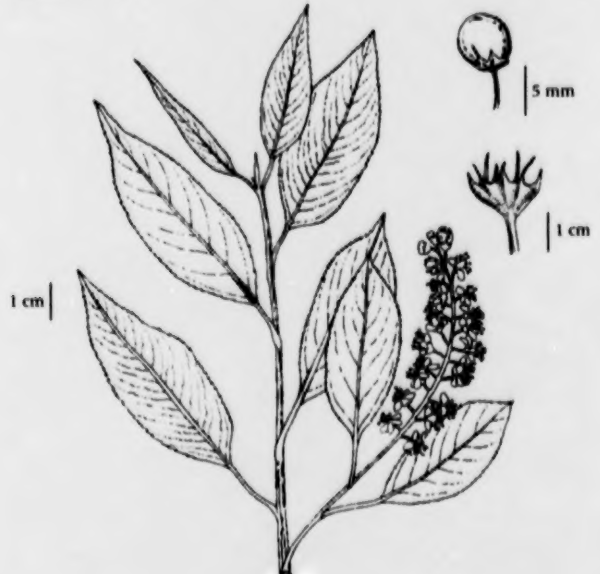
Prunus pensylvanica



Prunus serotina

***Prunus spinosa* L.**

sloe; blackthorn

HABITAT/RANGE:

Dry to moist thickets, gullies and waste places in the lowland zone; rare in SW BC; introduced from Europe.

DESCRIPTION:

General: Medium to tall shrub, 1-4 m tall, much-branched, very thorny with spine-tipped spur shoots, sometimes suckering to form dense thickets; twigs blackish, sometimes hairy when young.

Leaves: Alternate, deciduous, oval to egg-shaped, 2-4 cm long, finely saw-toothed, blunt at the tip, hairy on both surfaces or on the veins beneath but becoming smooth, short-stalked, the stalks usually without glands.

Flowers: Inflorescence a cluster of stalked flowers, the flowers single at each of the several crowded nodes of a short spur-shoot that was formed the previous year; corollas white, bowl-shaped, 1-2 cm across, the petals 5, oblong-egg-shaped, 5-7 mm long; calyces 5-lobed; ovaries superior.

Fruits: Fleshy drupes with a large wrinkled stone (prunes), nearly globe-shaped, 10-15 mm long, on stalks shorter than 1 cm, bluish-purple to black, with whitish bloom; seeds 1.

***Prunus virginiana* L.**

choke cherry

HABITAT/RANGE:

Dry to mesic forest edges, open forests, thickets, bluffs, grassy rocky slopes, river terraces, gullies, draws and streambanks in grasslands, and clearings in the lowland and montane zones; common in S BC, especially east of the Coast-Cascade Mountains, infrequent northward; E to NF and S to NC, TX and CA.

DESCRIPTION:

General: Shrub or occasionally a small tree, 1-6 m tall, often suckering and thicket-forming; young twigs usually hairy; bark smooth to fine-scaly, reddish-brown to grey-brown, not peeling readily, the lenticels not prominent.

Leaves: Alternate, deciduous, elliptic to egg-shaped, 3-10 cm long; finely and regularly saw-toothed, abruptly tapering to a sharp-pointed tip, blunt to rounded or somewhat heart-shaped at the base, green and smooth above, paler and smooth to hairy beneath; leaf stalk with 1 or 2 prominent glands near the top.

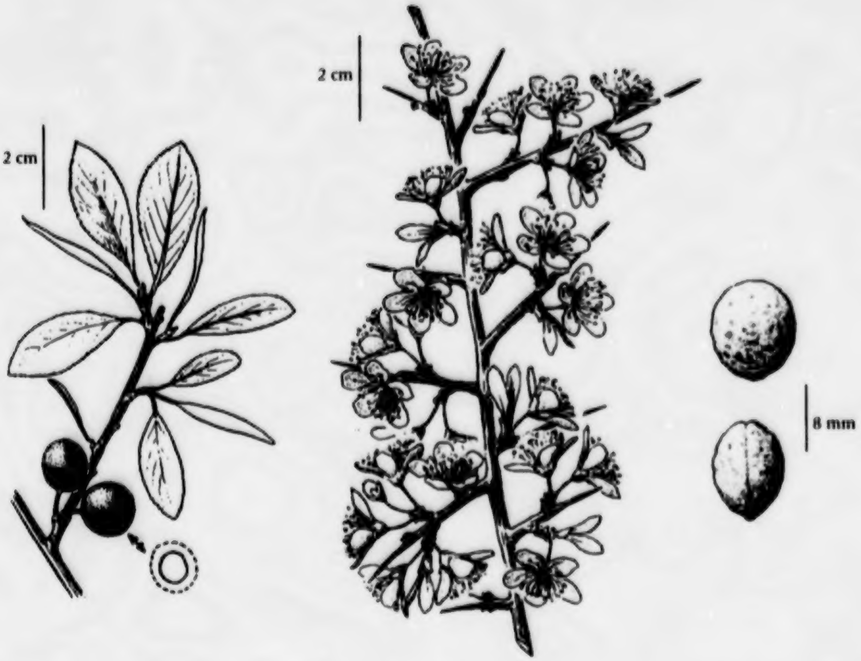
Flowers: Inflorescence a long (5-15 cm) bottlebrush-like cluster, at the end of a short leafy spur-shoot, of numerous stalked flowers; corollas white, saucer-shaped, the petals 5, nearly circular, 4-6 mm long; calyces smooth, 5-lobed, the oval lobes blunt, irregularly glandular-toothed or ragged, 1-1.5 mm long; ovaries superior; stamens about 25.

Fruits: Fleshy drupes with a large stone (cherries), egg- to globe-shaped, 6-12 mm long, shiny, red, purple or black; seeds 1.

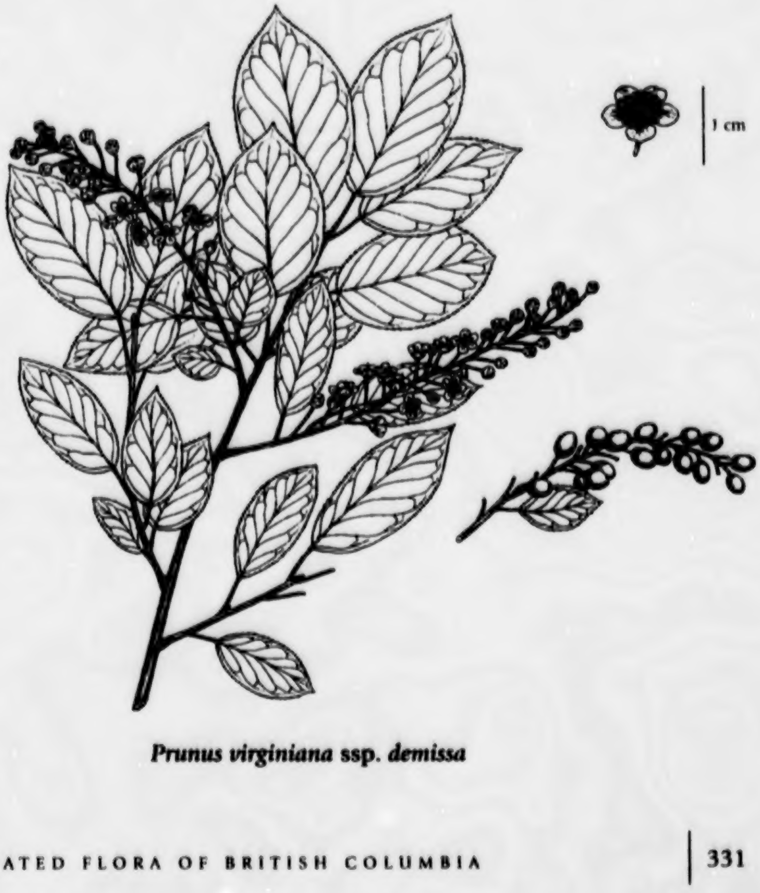
Notes: Two subspecies occur in BC:

1. Leaves smooth beneath or hairy in axils of veins; drupes bluish-purple to black; plants from east of the Coast-Cascade Mountains .... ssp. *melanocarpa* (Nels.) Taylor & MacBryde

1. Leaves velvety-hairy beneath; drupes black; plants from west of the Coast-Cascade Mountains .... ssp. *demissa* Taylor & MacBryde



Prunus spinosa



Prunus virginiana ssp. *demissa*

PURSHIA

Purshia tridentata **(Pursh) DC.**

antelope-brush; bitter-brush

HABITAT/RANGE:

Dry open slopes, grasslands and sagebrush shrublands in the steppe and adjoining lower montane zones; common in extreme S BC, east of the Coast-Cascade Mountains and south of about 51°N; S to MT, WY, CO, NM and CA.

DESCRIPTION:

General: Medium to tall shrub, 1-2 (3) m tall; stems erect, freely and rigidly branched, twigs woolly-hairy, especially when young.

Leaves: Alternate, deciduous, in small bundles on short lateral spur-shoots, wedge-shaped, mostly 1-2 cm long, 3-toothed at the tip, silvery-greenish and hairy on the upper surface, grey-woolly beneath, the margins rolled under.

Flowers: Inflorescence of single, short-stalked flowers at ends of short, lateral, leafy spur-shoots; corollas yellow to cream, wheel-shaped, the petals 5, egg- to spoon-shaped, 5-9 mm long, early-deciduous; calyces bell-shaped, woolly- or cobwebby-hairy and stalked-glandular, 5-lobed, the lobes oblong-egg-shaped, 3-4 mm long; ovaries superior; stamens about 25.

Fruits: Large achenes, about 15 mm long including the persistent style, ellipsoid-spindle-shaped, somewhat leathery, velvety-hairy and glandular; seeds 1, black, pear-shaped, 6-8 mm long.

PYRACANTHA

Pyracantha coccinea **M. Roemer**

scarlet firethorn

HABITAT/RANGE:

Mesic to moist waste places, fields and forest edges in the lowland zone; rare in SW BC (Vancouver Island); introduced from Europe.

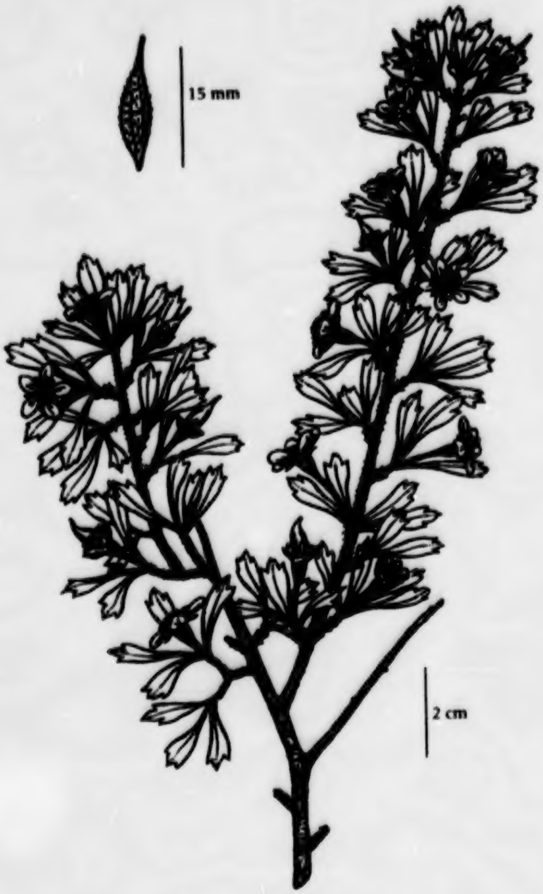
DESCRIPTION:

General: Medium to tall shrub, 1.5-6 m tall; stems much-branched, with leafy thorns, the young growth grey-hairy.

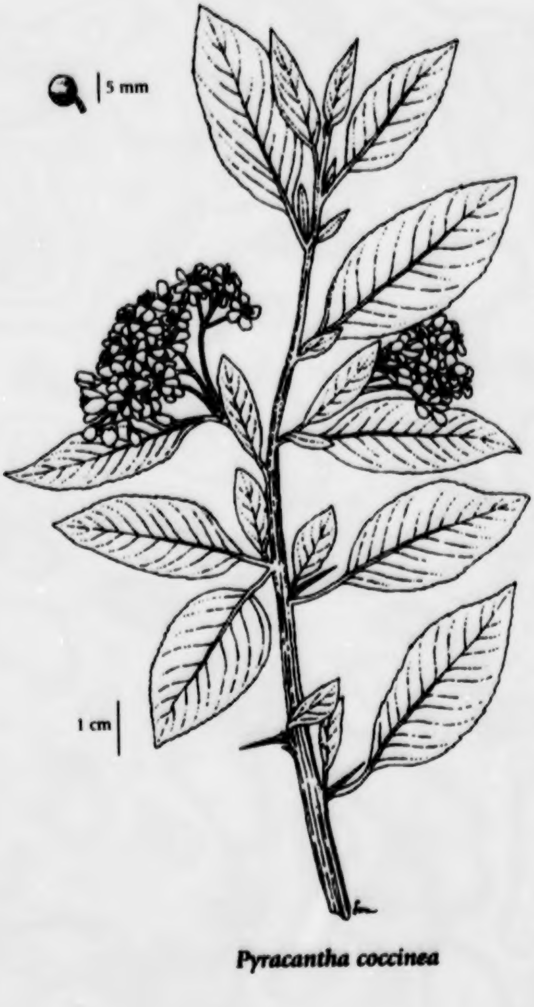
Leaves: Alternate, evergreen, lanceolate to narrowly elliptic, 2-5 cm long, finely blunt-toothed, smooth or sometimes sparsely hairy beneath when young.

Flowers: Inflorescence a small cluster, at the end of a lateral branchlet, of several to many, hairy-stalked flowers; corollas white, saucer-shaped, 7-8 mm across, the petals 5; calyces 5-lobed; ovaries inferior.

Fruits: Berry-like pomes (like miniature apples), nearly globe-shaped, bright orange-red, 5-6 mm wide; stones (nutlets) 5.



Purshia tridentata



Pyracantha coccinea

PYRUS

Pyrus communis **L.**

common pear

HABITAT/RANGE:

Mesic to moist waste places, fields and open forests of the lowland zone; rare in SW BC; introduced from Europe.

DESCRIPTION:

General: Large shrub to tree, 5-15 m tall; branches sometimes with thorn-like leaf-spurs, the twigs and buds becoming smooth; bark fissured, scaly.

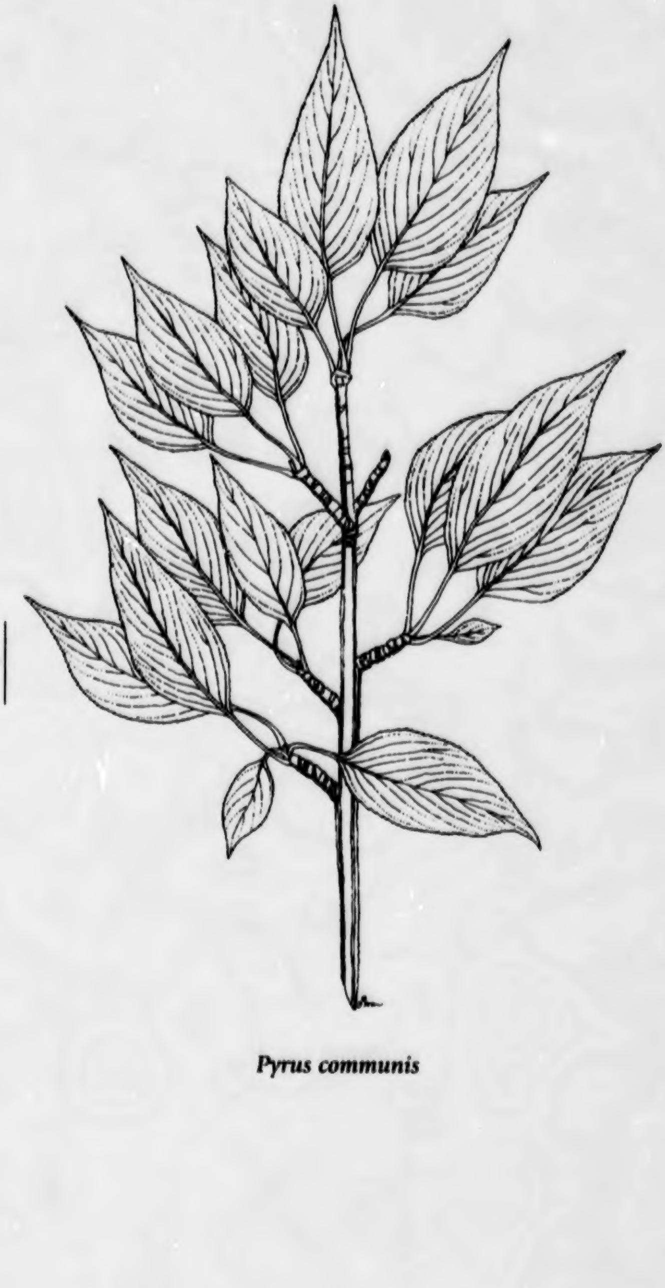
Leaves: Alternate, deciduous, elliptic to egg-shaped, 5-10 cm long, finely blunt-toothed to nearly entire, abruptly short-pointed at the tip, hairy when young, becoming smooth.

Flowers: Inflorescence a short umbel-like cluster, on a lateral branchlet, of 4 to 12 long-stalked flowers; corollas white, bowl-shaped, the petals 5, egg-shaped to circular, 10-15 mm long; calyces 5-lobed, the lobes triangular, 5 mm long; ovaries inferior; stamens 20-30.

Fruits: Fleshy pomes (pears), pear- to globe-shaped, 2-4 cm or more long (much larger in cultivated forms), 2-5 chambered, the calyx-lobes persisting, the flesh with grit cells.

ROSA

1. Prickles strongly curved, stout; calyx-lobes often with conspicuous lateral segments and usually reflexed after flowering.
    2. Lower surface of leaflets stalked-glandular .... *R. eglanteria*
    2. Lower surface of leaves not stalked-glandular (sometimes a few glands along leaf axis or midrib of leaflets) .... *R. canina*
1. Prickles not or slightly curved, often slender; calyx-lobes usually without lateral segments, usually ascending or erect after flowering.
    3. Calyx-lobes deciduous in fruit, 12 mm long or less; petals 15 mm long or less .... *R. gymnocarpa*
    3. Calyx-lobes persistent in fruit, greater than 12 mm long; petals greater than 15 mm long.
        4. Stems with well-defined infrastipular prickles (pair of prickles at or just below each node) or nearly unarmed.
            5. Calyx-lobes usually glandular-bristly; leaflets finely toothed; plants from west of the Coast-Cascade Mountains .... *R. pisocarpa*
            5. Calyx-lobes usually not glandular-bristly; leaflets coarsely toothed.
                6. Flowers small and clustered; calyx-lobes mostly 1-2 cm long and 2-3.5 mm wide at base; petals 1.2-2.5 cm long .... *R. woodsii*
                6. Flowers large and usually solitary; calyx-lobes mostly 1.5-4 cm long and 3-6 mm wide at base; petals 2.5-4 cm long .... *R. nutkana*
        4. Stems more or less bristly with slender prickles; infrastipular prickles, if any, like the others.
            7. Flowers mostly solitary, usually on lateral branchlets of current season; leaflets usually 5 to 7 (9); petals more than 2 cm long .... *R. acicularis*
            7. Flowers commonly clustered at ends of main shoots of current season as well as on lateral branchlets; leaflets (7) 9-11; petals less than 2.5 cm long .... *R. arkansana*



Pyrus communis

Rosa acicularis **Lindl. ssp.** ***sayi*** **(Schwein.) W.H. Lewis**

prickly rose

HABITAT/RANGE:

Dry to moist open forests, thickets, open rocky or grassy slopes, river terraces, streambanks and clearings in the lowland to subalpine zones; common throughout BC, east of the Coast-Cascade Mountains; circumboreal, N to AK, E to PQ and S to NY, MN, CO and NM; Eurasia.

DESCRIPTION:

General: Low to medium shrub, 0.3 to 1.5 m tall, spreading by extensive rhizomes, sometimes forming thickets; stems spindly to stout, erect to arching, usually covered with numerous straight, bristly prickles of various sizes, but twigs of the year often not prickly; mature stems reddish- to greyish-brown.

Leaves: Alternate, deciduous, odd-pinnately compound, the axis usually hairy and glandular; leaflets usually 5 or 7, oblong-elliptic, 2-5 cm long, coarsely double-toothed, the teeth often gland-tipped, more or less rounded at the base, usually somewhat hairy on the underside; stipules hairy, glandular on the margins.

Flowers: Inflorescence of usually single, occasionally 2 or 3, stalked flowers on lateral branchlets; corollas pink, saucer-shaped, (4) 5-7 cm across, the petals 5, 2-3 cm long; calyces smooth, 5-lobed, the lobes lanceolate, long-tapering and narrowing then flaring below the tip, persistent, becoming erect and converging in fruit; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

Fruits: Achenes, 15 to 25, stiffly long-hairy on one side or towards the tip, enclosed by the fleshy hypanthium, which ripens into a scarlet to purplish, globe- to pear-shaped or ellipsoid hip 1-2 cm long.

Rosa arkansana **T.C. Porter var.** ***arkansana***

Arkansas rose

HABITAT/RANGE:

Dry grassy slopes, cutbanks, thickets and open forests in the montane zone; rare in extreme EC BC known only from Dunlevy Inlet (Williston Reservoir) and along the Peace River; E to MB and S to MT, NM, TX and MO.

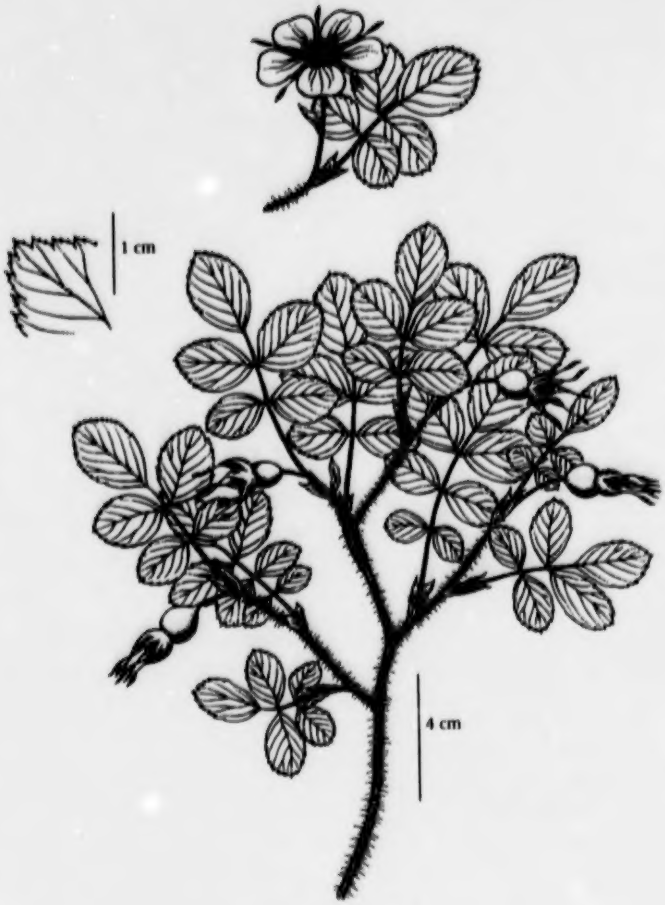
DESCRIPTION:

General: Low shrub, 10 to 50 cm tall, from a rhizome or runner; stems spindly, erect to spreading, sparsely to densely bristly with straight prickles of various sizes; stems dying back annually to near the ground.

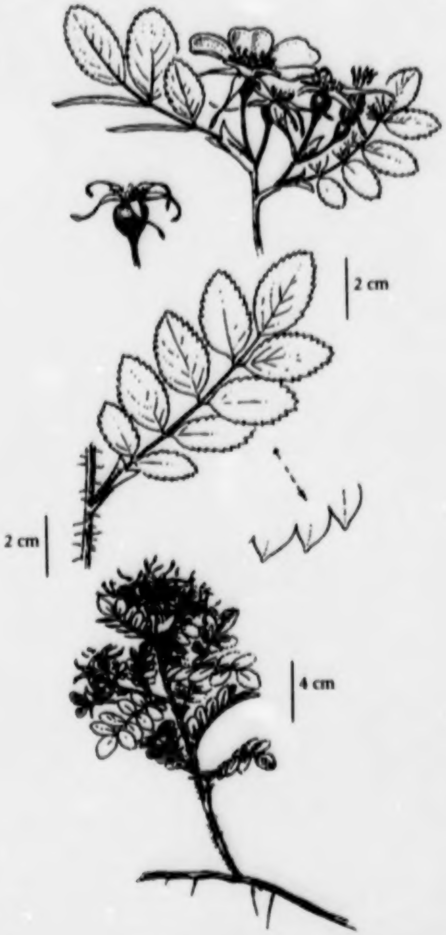
Leaves: Alternate, deciduous, odd-pinnately compound, the axis usually hairy and sometimes glandular; leaflets usually 9 or 11, elliptic to egg-shaped, 1-4 cm long, coarsely saw-toothed, the teeth often callus-tipped, softly short-hairy to smooth; stipules smooth to hairy, entire or glandular-blunt-toothed near the tip.

Flowers: Inflorescence of several stalked flowers in a small cluster atop the main shoot of the season, or at the end of a lateral branchlet; corollas pink, sometimes white, saucer-shaped, 4-7 cm across, the petals 5, 15-25 mm long; calyces 5-lobed, the lobes lanceolate, long-tapering and narrowing then flaring below the tip, 10-25 mm long, stalked-glandular on the back, persistent, spreading in fruit; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

Fruits: Achenes, 15 to 30, stiffly long-hairy especially on one side, enclosed by the fleshy hypanthium, which ripens into a reddish-purple, globe- to pear-shaped hip 8-12 mm long.



Rosa acicularis ssp. *sayi*



Rosa arkansana var. *arkansana*

Rosa canina **L.**

dog rose

HABITAT/RANGE:

Mesic to dry roadsides, open fields and abandoned homesteads in the lowland zone; rare in SW and SC BC; introduced from Eurasia.

DESCRIPTION:

General: Medium to tall shrub, 1 to 3 m tall, often thicket-forming; stems stout, erect to arching, armed with flattened, curved or hooked prickles; mature stems olive-green.

Leaves: Alternate, deciduous, odd-pinnately compound; leaflets 5 or 7, elliptic to egg-shaped, 1-4 cm long, mostly smooth, coarsely 1- or 2-saw-toothed, the teeth often gland-tipped.

Flowers: Inflorescence of 1 to 5 stalked flowers at the end of a lateral branchlet; corollas white to pinkish, saucer-shaped, 5-7 cm across, the petals 5, 20-25 mm long; calyces smooth, 5-lobed, the lobes 10-20 mm long, some of them with narrow, toothed lateral segments, reflexed after flowering, falling off before the fruit ripens; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

Fruits: Achenes, enclosed by the fleshy hypanthium, which ripens into a scarlet, globe- to egg-shaped or ellipsoid hip 1-2 cm long.

Rosa eglanteria **L.**

sweetbrier

HABITAT/RANGE:

Mesic to dry roadsides and waste places in the lowland and steppe zones; infrequent in SW and SC BC; introduced from Eurasia.

DESCRIPTION:

General: Medium to tall shrub, 1 to 3 m tall, usually thicket-forming; stems erect, armed with scattered, flattened, unequal, curved or hooked spines, sometimes also with short straight prickles; mature stems olive-green.

Leaves: Alternate, deciduous, odd-pinnately compound, the axis fine-prickly and densely glandular; leaflets 5 or 7, broadly elliptic to nearly circular, 1-2.5 cm long, hairy and stalked-glandular beneath, coarsely double-saw-toothed, the teeth gland-tipped; leaves aromatic, especially in warm weather.

Flowers: Inflorescence of 1 to 3 or more stalked flowers at the end of a lateral branchlet, the stalks glandular-hairy; corollas pink, saucer-shaped, 3-5 cm across, the petals 5, 10-20 mm long; calyces 5-lobed, the lobes 10-20 mm long, stalked-glandular, some of them with narrow, toothed lateral segments, spreading to reflexed after flowering, falling off when the fruit is mature; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

Fruits: Achenes, enclosed by the fleshy hypanthium, which ripens into a scarlet, globe- to egg-shaped hip 1-1.5 cm long.

Rosa gymnocarpa **Nutt.**

baldhip rose

HABITAT/RANGE:

Dry to moist open forests, forest edges, thickets and clearings in the lowland and montane zones; common in S BC south of about 53°N; S to CA, MT and ID.

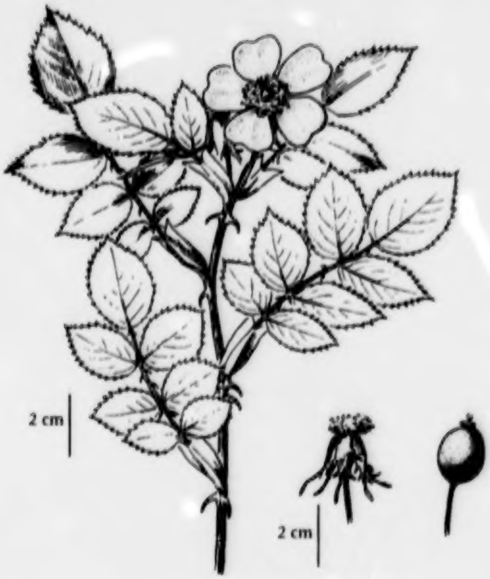
DESCRIPTION:

General: Low to medium shrub, 0.3-1.5 m tall; stems spindly, erect to spreading, usually bristly with numerous soft, straight prickles all about the same size, occasionally unarmed especially on younger stems, which are often stalked-glandular; mature stems greyish-brown.

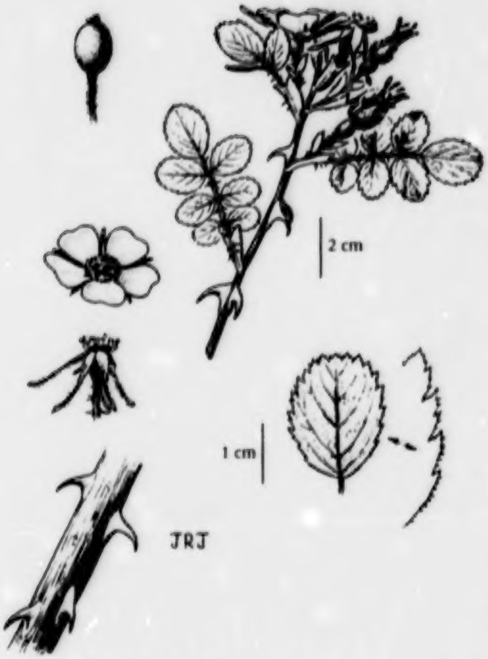
Leaves: Alternate, deciduous, odd-pinnately compound, the leaf-stalk and axis somewhat stalked-glandular; leaflets 5, 7 or 9, elliptic, 1-4 cm long, double-toothed with gland-tipped teeth, otherwise smooth; stipules glandular and usually blunt-toothed.

Flowers: Inflorescence of usually single, occasionally 2 to 3, stalked flowers at the ends of lateral branchlets, the stalks bristly-glandular; corollas pale pink to rose, bowl- to saucer-shaped, small (2-3.5 cm across), the petals 5, 10-15 mm long; calyces 5-lobed, the lobes 5-12 mm long, egg-shaped to triangular tapering to a tail-like sharp tip, smooth or occasionally glandular on the back, deciduous; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

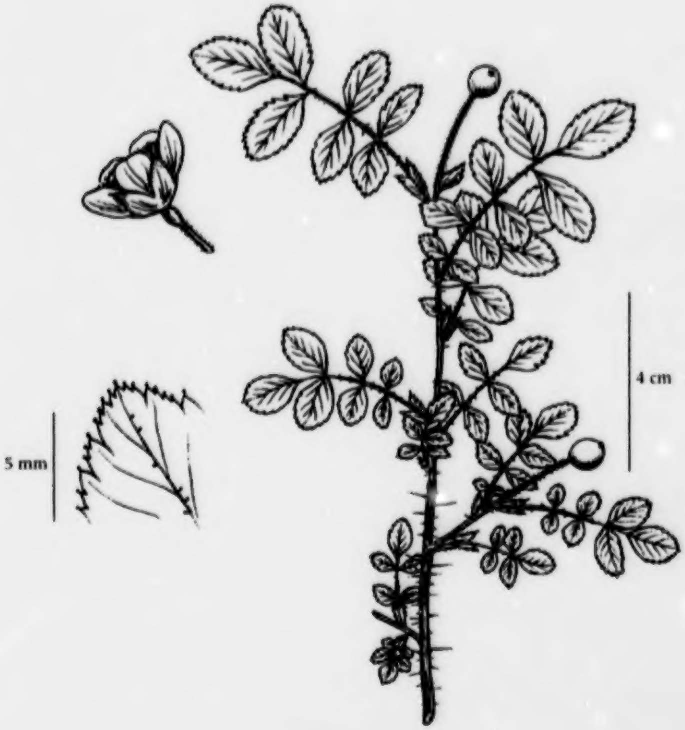
Fruits: Achenes, few to about 12, smooth except for a few long hairs at the tip, enclosed by the fleshy hypanthium, which ripens into an orange to scarlet, pear-shaped to ellipsoid hip 6-10 mm long, the neck and calyx-lobes deciduous.



Rosa canina



Rosa eglanteria



Rosa gymnocarpa

Rosa nutkana **Presl**

Nootka rose

HABITAT/RANGE:

Mesic to moist thickets, forest edges, river terraces, shorelines, streambanks, clearings and roadsides in the lowland and montane zones; common throughout BC south of 55°N except in the Chilcotin area, infrequent northward, absent in NE BC; N to AK and S to CA, CO and UT.

DESCRIPTION:

General: Medium to tall shrub 0.5-3 m tall, spreading by rhizomes and often thicket-forming; stems stout to spindly, erect to arching, with a pair of large prickles (thorns) at each node, usually lacking internodal prickles; mature stems blackish.

Leaves: Alternate, deciduous, odd-pinnately compound, the leaf-stalk and axis glandular-hairy or short-hairy; leaflets 5 or 7 (9), elliptic to egg-shaped, 1-7 cm long, coarsely single- or double-toothed, somewhat glandular-short-hairy beneath; stipules usually glandular-blunt-toothed.

Flowers: Inflorescence of usually single, sometimes 2 or 3, stalked flowers on lateral branchlets; corollas pink, saucer-shaped, large (4-8 cm across), the petals 5, (2) 2.5-4 cm long; calyces smooth or glandular-bristly, 5-lobed, the lobes lanceolate, 1.5-4 cm long, long-tapering and narrowing then flaring below the tip, persistent; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

Fruits: Achenes, numerous, stiffly long-hairy on one side, enclosed by the fleshy hypanthium, which ripens into a purplish-red, globe- to pear-shaped hip 1-2 cm long.

Notes: Two varieties occur in BC:

1. Leaflets doubly saw-toothed, the teeth gland-tipped; infrastipular prickles becoming much enlarged and flattened toward base; plants mostly from west of Coast-Cascade Mountains .... var. *nutkana*

1. Leaflets singly saw-toothed, the teeth not gland-tiped; prickles rarely enlarged and flattened; plants mostly from east of Coast-Cascade Mountains .... var. *hispida* Fern.

Rosa pisocarpa **A. Gray**

clustered wild rose; peafruit rose

HABITAT/RANGE:

Moist to wet thickets, streambanks and swamps in the lowland and montane zones; frequent in SW BC; S to N CA.

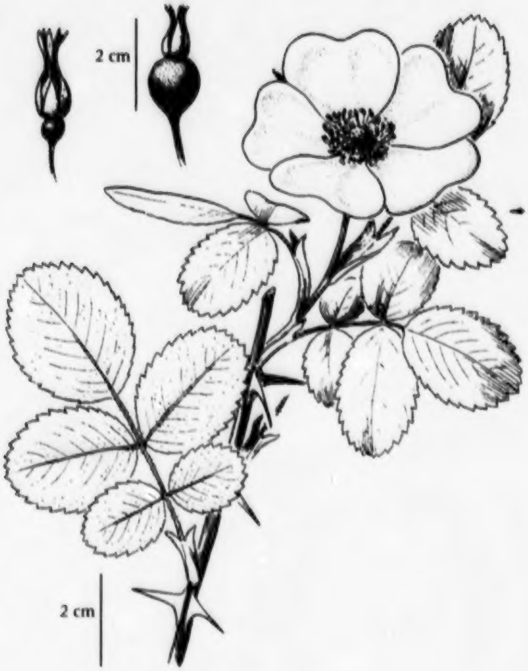
DESCRIPTION:

General: Low to medium shrub, 0.5-2 m tall, spreading by rhizomes and sometimes thicket-forming; stems spindly to stout, erect to spreading, usually with a pair of straight prickles near the base of the leaves, bristly internodal prickles present or absent, usually lacking on flowering shoots; mature stems blackish.

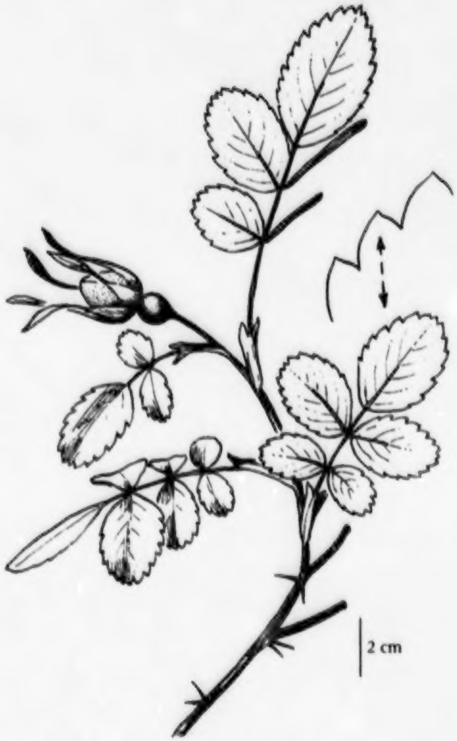
Leaves: Alternate, deciduous, odd-pinnately compound, the axis short-hairy; leaflets 5, 7 or 9, elliptic to egg-shaped, 1.5-6 cm long, finely and closely saw-toothed, short-hairy beneath; stipules short-hairy and sometimes glandular-blunt-toothed.

Flowers: Inflorescence of (1) 2 to 10 stalked flowers in a small, short cluster at the end of a lateral branchlet; corollas pink, saucer-shaped, rather small (3-5 cm across), the petals 5, 12-20 mm long; calyces 5-lobed, the lobes lanceolate, long-tapering and narrrowing then flaring below the tip, 10-15 mm long, stalked-glandular on the back, persistent; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium), the hypanthium glaucous; stamens numerous.

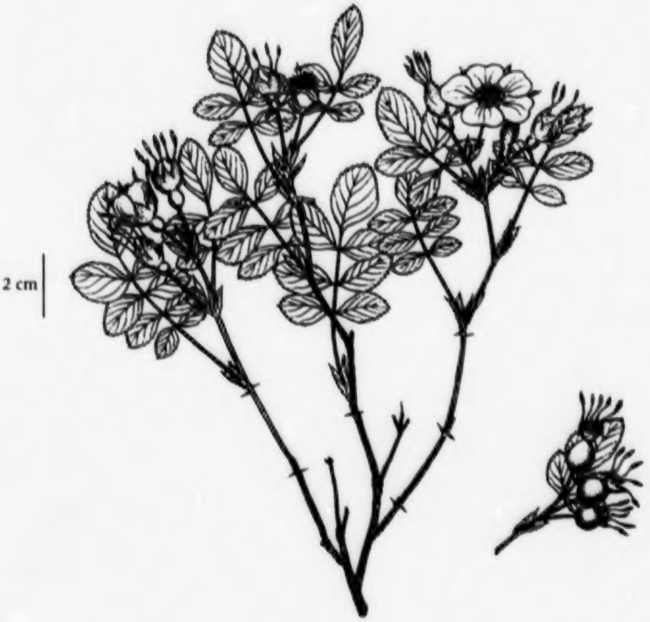
Fruits: Achenes, numerous, stiffly long-hairy on one side, enclosed by the fleshy hypanthium, which ripens into a reddish-purple, globe- or pear-shaped to ellipsoid hip 6-12 mm long.



Rosa nutkana var. *nutkana*



Rosa nutkana var. *hispida*



Rosa pisocarpa

Rosa woodsii **Lindl. ssp.** ***ultramontana*** **(S. Wats.) Taylor & MacBryde**

prairie rose; Wood's rose

HABITAT/RANGE:

Dry rocky slopes, open forests and clearings, and moist gullies, draws and streambanks in grasslands and savanna in the steppe and montane zones; frequent in S and C BC east of the Coast-Cascade Mountains, infrequent northward; E to SK and S to WI, MO, TX and CA.

DESCRIPTION:

General: Low to medium shrub, 0.5-2 m tall, spreading by rhizomes and sometimes thicket-forming; stems spindly to stout, erect to spreading, usually with a pair of straight or slightly curved prickles near the base of the leaves, often with weak internodal prickles or bristles especially on young shoots; mature stems reddish- to greyish-brown.

Leaves: Alternate, deciduous, odd-pinnately compound, the leaf-stalk and axis short-hairy and sometimes glandular; leaflets 5, 7 or 9, elliptic to egg-shaped, 1.5-5 cm long, short- or glandular-hairy to smooth beneath, coarsely single-toothed, the teeth not gland-tipped; stipules entire or glandular-blunt-toothed, short-hairy on the back.

Flowers: Inflorescence of 1 to 5 stalked flowers in a small, short cluster at the end of a lateral branchlet; corollas pink, saucer-shaped, rather small (3-5 cm across), the petals 5, 12-25 mm long; calyces 5-lobed, the lobes lanceolate, long-tapering and narrowing then flaring below the tip, 10-20 mm long, rarely stalked-glandular on the back, persistent; ovaries superior but enclosed in the urn-shaped floral tube (hypanthium); stamens numerous.

Fruits: Achenes, numerous, stiffly long-hairy on one side, enclosed by the fleshy hypanthium, which ripens into a dark red, globe-shaped to ellipsoid hip 6-12 mm long.

RUBUS

1. Plants unarmed.

  2. Stems erect, woody.

    3. Petals red; leaves compound with 3 leaflets .... *R. spectabilis*

    3. Petals white; leaves palmately lobed .... *R. parviflorus*

  2. Stems trailing, not woody.

    4. Plants dioecious (male and female flowers on separate plants); leaves round or kidney-shaped, shallowly lobed .... *R. chamaemorus*

    4. Plants with perfect (bisexual) flowers; leaves mostly compound.

      5. Petals pink to reddish, 8-18 mm long; plants without stolons .... *R. arcticus*

      5. Petals white, mostly less than 8 mm long; plants usually with stolons.

        6. Leaflets 5 (sometimes 3, with lower pair divided nearly to base) .... *R. pedatus*

        6. Leaflets 3, or leaves simple and deeply 3-lobed.

          7. Leaves usually simple and deeply lobed; ovaries and fruits densely hairy; filaments slender .... *R. lasiococcus*

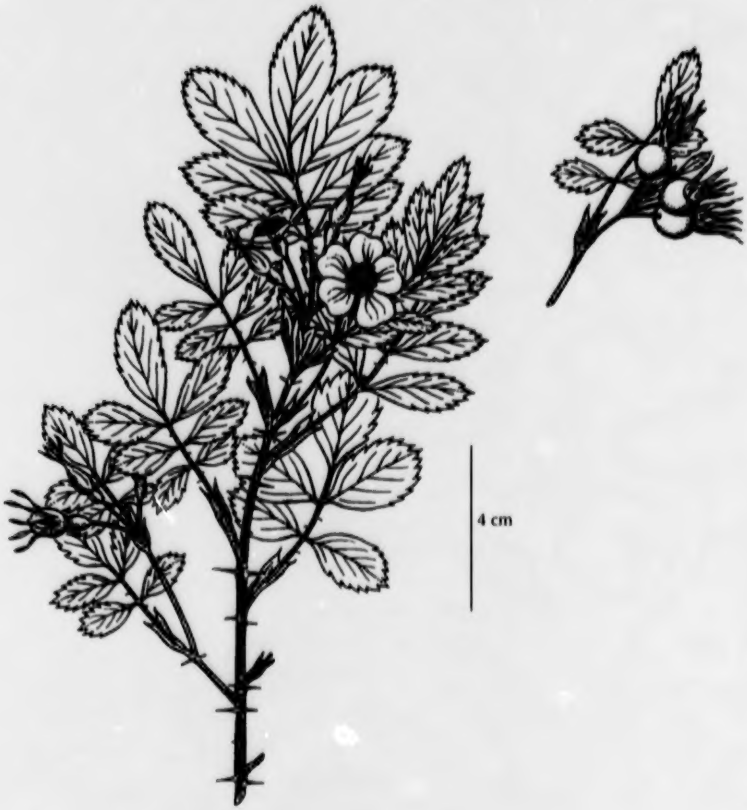
          7. Leaves compound with 3 leaflets; ovaries smooth; filaments flattened ...... *R. pubescens*

1. Plants armed with bristles or broad-based prickles.

  8. Leaves (at least in part) simple and heart-shaped; stipules narrowly egg-shaped, slenderly long-pointy-tipped; stems trailing; petals pink or purple .... *R. nivalis*

  8. Leaves nearly always compound; stipules various, but usually slender or fused to leaf-stalks; stems various; petals mostly white.

    9. Receptacle fleshy, forming part of the ripe fruit (blackberries); stems mostly trailing or clambering; plants strongly armed, at least some of the prickles flattened or hooked; petals white or pale pink.



Rosa woodsii **ssp.** *ultramontana*

10. Plants usually completely dioecious (male and female flowers on separate plants), female flowers with distinctly rudimentary stamens, male flowers with small nonfunctional carpels; stems weak, trailing; leaves compound with three leaflets, or sometimes simple .... *R. ursinus*

10. Plants with perfect (bisexual) flowers; stems thick, clambering to erect; leaves various.

    11. Leaflets deeply and jaggedly cleft to dissected .... *R. laciniatus*

    11. Leaflets merely toothed.

        12. Leaf- and flower-stalks with abundant glandular hairs; leaflets of vigorous canes usually gradually long-pointy-tipped .... *R. allegheniensis*

        12. Leaf- and flower-stalks lacking glandular hairs; leaflets of vigorous canes usually rounded or abruptly short-pointy-tipped .... *R. discolor*

9. Receptacle dry or only slightly fleshy, not forming part of the ripened fruit (raspberries), or if partially succulent then petals deep pink; stems mostly erect or arching, not trailing; the prickles not usually flattened or hooked; petals white, pink or red.

    13. Petals pink to red, usually over 1.5 cm long; fruits salmon-coloured to red; stems erect, not vine-like, often armed only near the base; leaves not prickly .... *R. spectabilis*

    13. Petals white, usually less than 1.5 cm long; fruits often black; leaves frequently prickly on the under surface.

        14. Main prickles flattened and often hooked; fruits dark reddish-blue to black; flowers several in umbel-like to flat-topped clusters .... *R. leucodermis*

        14. Main prickles usually neither flattened nor hooked; fruits red, occasionally yellowish; flowers few in open, but not flat-topped clusters .... *R. idaeus*

Rubus allegheniensis T.C. Porter var. *allegheniensis*

Allegheny blackberry

HABITAT/RANGE:

Moist waste places, boggy clearings and thickets in the lowland zone; locally frequent in the lower Fraser Valley; introduced from E North America.

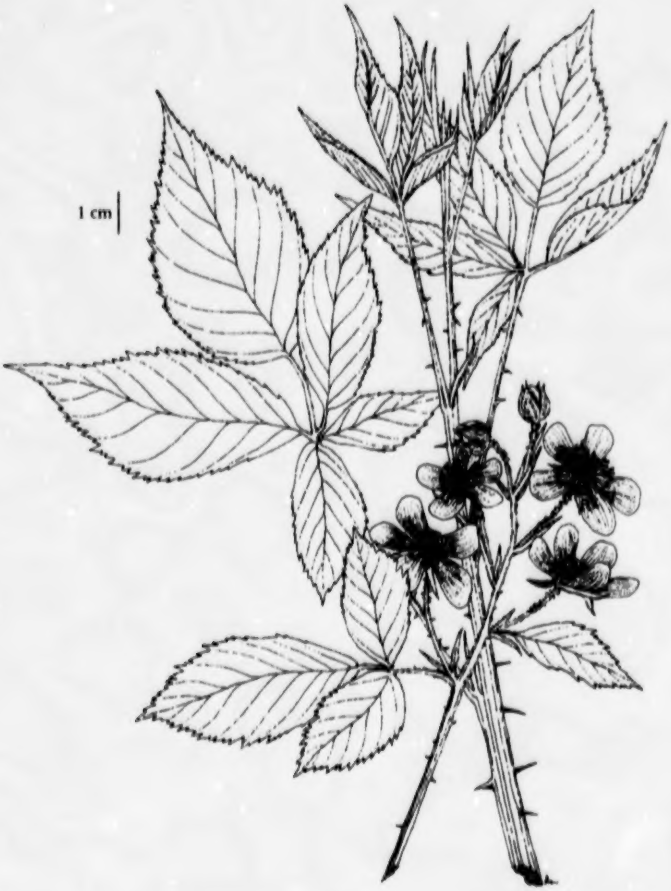
DESCRIPTION:

General: Medium to tall shrub, 0.5-3 m tall; stems 5-15 mm in diameter, erect to ascending, with stout, flattened, straight prickles.

Leaves: Alternate, deciduous, palmately compound; leaflets 5, oblong-egg-shaped, 7-20 cm long, finely saw-toothed and long-tapering to a sharp-pointed tip, the leaf-stalks soft-hairy, glandular and hooked-prickly.

Flowers: Inflorescence of many stalked flowers in an open, long, raceme-like cluster, the stalks fine-woolly and glandular; corollas white, the petals 5, spreading, egg-shaped, 5-10 mm long; calyces woolly, 5-lobed, the lobes lanceolate, bent back; ovaries superior; stamens numerous.

Fruits: Drupelets, coherent in a black oblong cluster that falls with the fleshy receptacle (a blackberry), the berries about 2 cm long.



Rubus allegheniensis* var. *allegheniensis

***Rubus arcticus* L.** (*Rubus acaulis* Michx. = ssp. *acaulis*; *R. stellatus* Sm. = ssp. *stellatus*)

nagoonberry; dwarf nagoonberry

HABITAT/RANGE:

Bogs, fens, swamps, wet to moist meadows, thickets and open forests in the montane to alpine zones; frequent throughout BC, mostly in and east of the Coast-Cascade Mountains; circumpolar, N to AK, E to NF and S to MT, CO and MN; Eurasia.

DESCRIPTION:

General: Perennial herb (rarely somewhat woody at the base) from a slender rhizome; annual flowering shoots erect, 5-15 cm tall, several, tufted, leafy, unarmed, finely soft-hairy.

Leaves: Alternate, deciduous, 2 to 5 per flowering shoot, long-stalked, palmately compound or shallowly lobed, the stalks more or less hairy; leaflets or lobes 3, the leaflets, if present, wedge-egg-shaped, 1-5 cm long, the leaflets or lobes usually rounded at the summit, coarsely single- or double-toothed except near the base, greenish on both surfaces, smooth to hairy above, paler and usually hairy especially on the veins beneath; stipules lanceolate to egg-shaped.

Flowers: Inflorescence of 1 to 3 stalked flowers atop erect leafy shoots; corollas pink to rose, the petals 5, lance-egg-shaped to spoon-shaped, 8-18 mm long, erect; calyces fine-hairy and sometimes glandular, 5-lobed, the lobes narrowly lanceolate, 5-13 mm long, bent back; ovaries superior; stamens 30 to 40, the filaments flattened.

Fruits: Drupelets, 20 to 30, smooth, coherent in a red to purplish, globe-shaped cluster, about 1 cm wide, that separates from the dry receptacle (raspberry-like).

Notes: Two subspecies occur in BC:

1. Leaves compound; calyces lacking glands; frequent throughout BC .... ssp. *acaulis* (Michx.) Focke
1. Leaves 3-lobed or nearly entire; calyces with yellow glands; rare in NW BC .... ssp. *stellatus* (Sm.) Boivin

***Rubus chamaemorus* L.**

cloudberry

HABITAT/RANGE:

Bogs and wet peaty soil in boggy forests in the lowland and montane zones; frequent in BC north of 55°N, infrequent southward, absent from SC and SE BC; circumboreal, N to AK, YT and NT, E to NF and S to NY and ME; Eurasia.

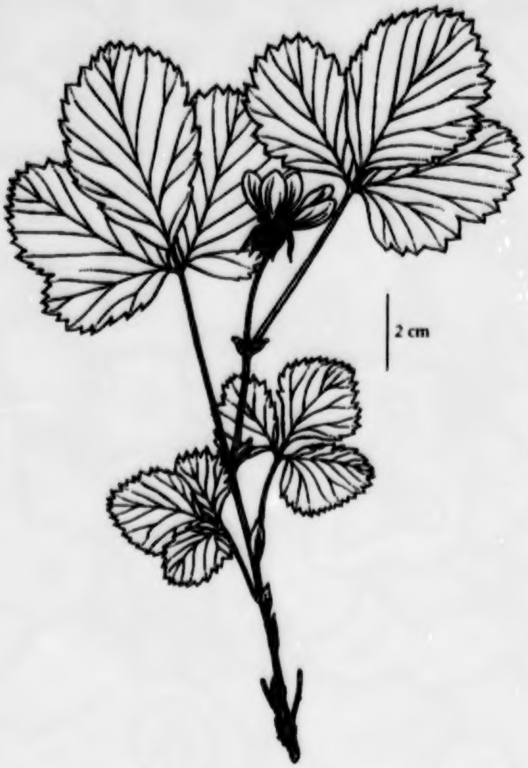
DESCRIPTION:

General: Perennial herb from a slender creeping rhizome; stems erect, 5-30 cm tall, unbranched, unarmed, hairy and often glandular, or nearly smooth, the lowest nodes with stipules only.

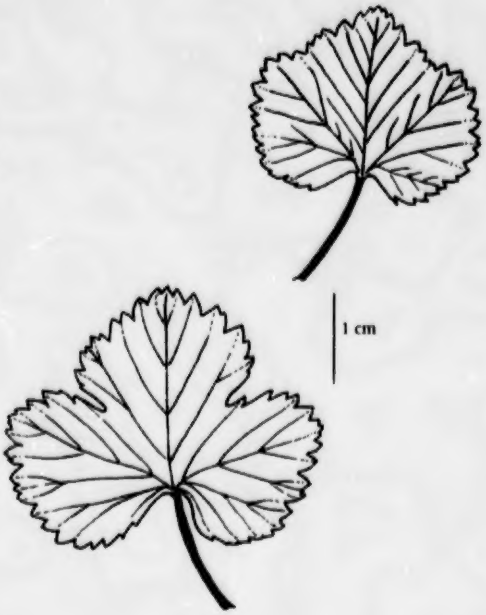
Leaves: Alternate, deciduous, 1 to 3, long-stalked, the blades round-kidney-shaped, 2-12 cm wide, somewhat leathery, palmately shallowly 5- to 7-lobed, the lobes usually rounded at the summit, saw-toothed, green and smooth to thinly hairy above, paler and hairier especially on the veins beneath; stipules egg-shaped.

Flowers: Inflorescence of a solitary stalked flower atop the stem, the flowers unisexual with male and female flowers on separate plants; corollas white, the petals 5, egg-shaped, 7-15 mm long, spreading; calyces fine-hairy to smooth, 5-lobed, the lobes oblong-egg-shaped, 5-15 mm long, ascending to spreading in fruit; ovaries superior; stamens many, the filaments linear.

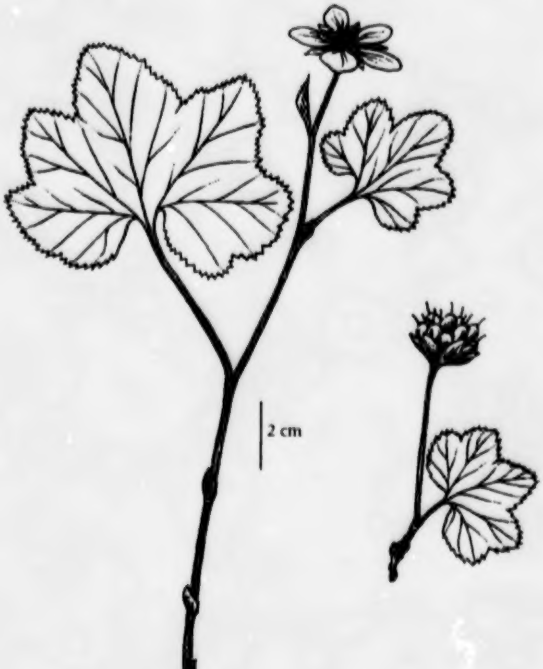
Fruits: Drupelets, large, smooth, coherent in a raspberry-like cluster, at first reddish, then amber to yellow when mature.



Rubus arcticus ssp. *acaulis*



ssp. *stellatus*



Rubus chamaemorus

Rubus discolor **Weihe & Nees (*Rubus procerus auct. non* Muell.)**
Himalayan blackberry
HABITAT/RANGE:
Moist to wet waste places, roadsides, ditches and fencerows in the lowland zone; common in SW BC; introduced from Asia.
DESCRIPTION:
General: Medium to tall, coarse shrub, 2-5 m or more long, thicket-forming; stems 5-15 mm in diameter, erect to ascending, then high-arching, sprawling and trailing along the ground, some rooting at the ends, five-angled, with stout, flattened, hooked prickles along the angles, grey-downy at least when young.

Leaves: Alternate, evergreen, palmately compound, 5-20 cm long; leaflets 5 on first-year canes, mostly 3 on flowering canes, egg-shaped, 5-12 cm long, double-saw-toothed and abruptly sharp-pointed at the tip, green and smooth above, greyish-woolly beneath, the leaf-stalks and midveins beneath prickly; stipules linear.

Flowers: Inflorescence of 5 to 20 stalked flowers in open, terminal or axillary clusters, the stalks woolly and prickly; corollas white to pinkish, the petals 5, spreading, egg-shaped, 10-15 mm long; calyces woolly, 5-lobed, the lobes lanceolate, bent back, 8-12 mm long; ovaries superior; stamens 100 or more.

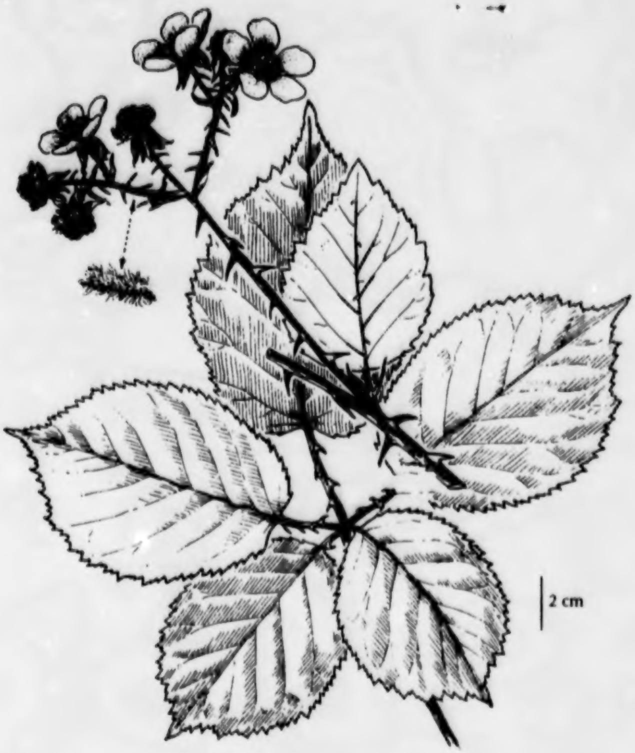
Fruits: Drupelets, smooth, coherent in a black nearly globe-shaped cluster that falls with the fleshy receptacle (a blackberry), the berries 1-1.5 cm wide.

Rubus idaeus **L. var. *strigosus* (Michx.) Maxim** (*R. melanolasius* Dieck, *R. strigosus* Michx., *R. idaeus* ssp. *melanolasius* [Dieck] Focke)
red raspberry; American red raspberry
HABITAT/RANGE:
Mesic to moist thickets, rocky slopes, clearings, burns, old fields and open forests in the lowland and montane zones; common throughout BC mostly in and east of the Coast-Cascade Mountains; E to NF and S to CA, N MX and NC.
DESCRIPTION:
General: Medium shrub, 0.5-2 m tall, perennial with biennial stems (canes); stems erect to ascending, almost unarmed to prickly and bristly, often glandular-hairy, sometimes smooth and glaucous beneath the prickles; bark yellow to cinnamon-brown, shredding; similar to cultivated raspberry.

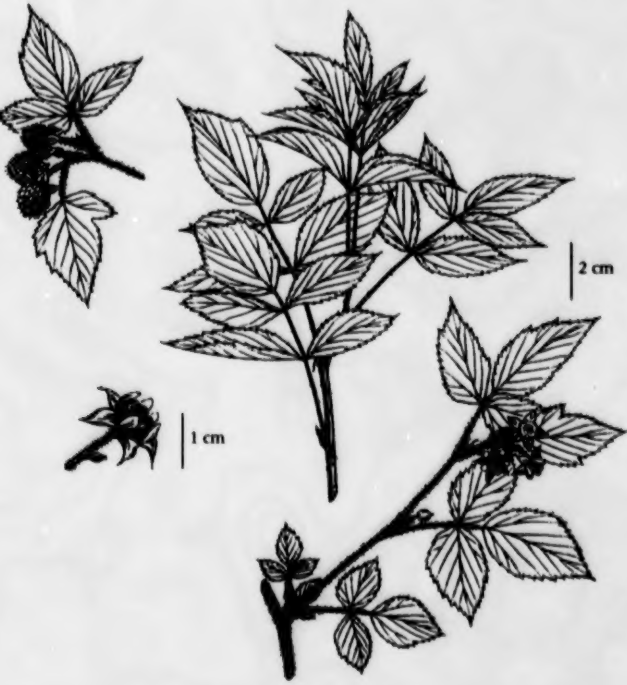
Leaves: Alternate, deciduous, pinnately compound, 5-20 cm long; leaflets 3 to 5 on first-year canes, mostly 3 on flowering canes, egg-shaped to broadly lanceolate, 3-10 cm long, double-saw-toothed and sharply long-pointed at the tip, greenish and smooth to sparsely hairy above, paler and greyish-woolly to nearly smooth beneath, the veins and leaf-stalks often glandular-prickly; stipules linear-awl-shaped, 4-10 mm long.

Flowers: Inflorescence of 1 to 4 stalked flowers in small, open, nodding, axillary or terminal clusters, the stalks often bristly-glandular; corollas white, the petals 5, erect, oblong-spoon-shaped, 4-7 mm long; calyces hairy to glandular-bristly, 5-lobed, the lobes lanceolate, bent back, 4-8 (12) mm long; ovaries superior; stamens 75-100.

Fruits: Drupelets, finely and thinly woolly, weakly coherent in a red egg-shaped cluster that falls intact from the dry receptacle (a raspberry), the berries 1-1.2 cm wide.



Rubus discolor



Rubus idaeus var. *strigosus*

***Rubus laciniatus* Willd.**

cutleaf evergreen blackberry; evergreen blackberry

HABITAT/RANGE:

Moist to wet waste places, ditches and roadsides in the lowland zone; common in SW BC; introduced from Europe.

DESCRIPTION:

General: Medium to tall, coarse shrub, 2-10 m or more long, thicket-forming; stems 3-10 mm in diameter, ascending or arching, then sprawling and trailing along the ground, some rooting at the ends, five-angled, with stout, flattened, hooked prickles along the angles, fine-hairy when young becoming smooth.

Leaves: Alternate, evergreen, palmately compound; leaflets 5, more or less egg-shaped in outline, deeply and jaggedly lobed to divided into secondary leaflets themselves jaggedly lobed or coarsely toothed, abruptly sharp-pointed at the tip, green and smooth or slightly hairy above, hairy and greyish-green beneath, the leaf-stalks and midveins beneath hooked-prickly; stipules linear.

Flowers: Inflorescence of few to many, stalked flowers in open, somewhat flat-topped, terminal or sometimes axillary clusters, the stalks curved-prickly and soft-hairy; corollas pinkish to white, the petals 5, spreading, wedge-egg-shaped and 3-lobed at the tip, 9-15 mm long; calyces downy and prickly on the back, 5-lobed, the lobes lanceolate with long tail-like tips, bent back, 8-15 mm long; ovaries superior; stamens 75 or more.

Fruits: Drupelets, smooth, coherent in a black, globe- to egg-shaped cluster that falls with the fleshy receptacle (a blackberry), the berries 1-1.5 cm long.

***Rubus lasiococcus* A. Gray**

dwarf bramble

HABITAT/RANGE:

Mesic to moist thickets and open forests in the montane and lower subalpine zones; rare in SW BC; S to N CA.

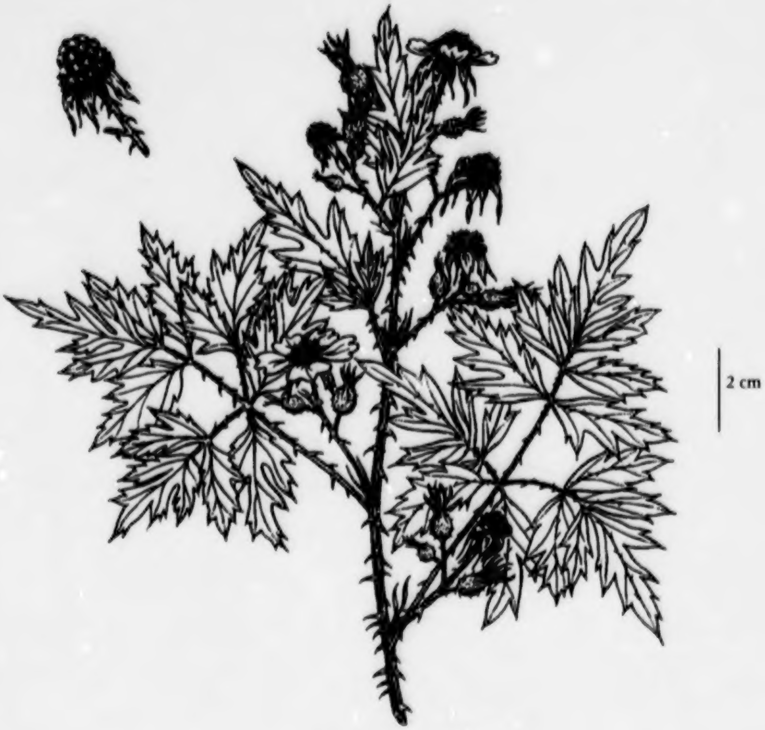
DESCRIPTION:

General: Perennial, with slender trailing stems and erect flowering branches; stems trailing, stolon-like, to 2 m long, often rooting at the nodes, short-hairy; flowering branches short, to 10 cm tall.

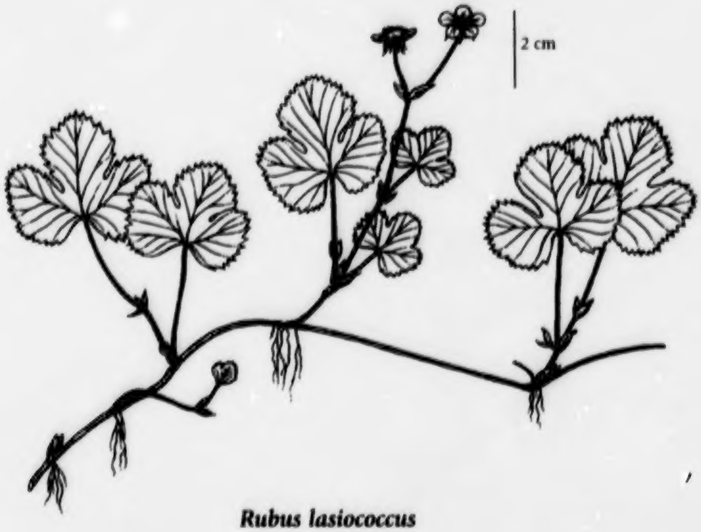
Leaves: Alternate, deciduous,1 to 3 per flowering branch, long-stalked, simple, the blades heart-kidney-shaped, 2-6 cm wide, shallowly to deeply 3-lobed, the lobes rounded, double-saw-toothed, green on both surfaces, sparsely hairy above and on the veins beneath; stipules membranous, egg-shaped.

Flowers: Inflorescence of 1 or 2 long-stalked flowers atop short leafy shoots, the stalks not glandular; corollas white, the petals 5, broadly egg-shaped, 5-8 mm long, erect; calyces densely short-hairy, 5-lobed, the lobes lance-egg-shaped, 4-8 mm long, bent back; ovaries superior; stamens numerous, the filaments slender, not flattened.

Fruits: Drupelets, densely short-hairy, few to several in a red hemispheric cluster; like a rudimentary raspberry, the berries about 1 cm wide.



Rubus laciniatus



Rubus lasiococcus

Rubus leucodermis **Dougl.** ***ex*** **T. & G. ssp.** ***leucodermis***

black raspberry

HABITAT/RANGE:

Dry to moist thickets, rocky slopes, clearings and open forests of the lowland to montane zones; common in SW BC, infrequent in SC and SE BC; S to MT, WY, UT, NV and CA.

DESCRIPTION:

General: Medium shrub, 0.5-2 m tall; stems erect to ascending, some arching back to the ground and sometimes rooting at the tip, armed with short, stiff, somewhat flattened, recurved or sometimes straight prickles, very glaucous.

Leaves: Alternate, deciduous, pinnately compound; leaflets 3 (to 5), egg-shaped to broadly lanceolate, 2-8 cm long, double-saw-toothed and sometimes lobed, sharp-pointed at the tip, greenish and smooth above, white-woolly beneath, the veins and leaf-stalks prickly; stipules linear, 5 mm long.

Flowers: Inflorescence of 2 to 7 stalked flowers in small, open, umbel-like to flat-topped, terminal or sometimes axillary clusters, the stalks woolly and prickly; corollas white, the petals 5, erect, spoon-shaped, 3-5 mm long; calyces woolly and often glandular, 5-lobed, the lobes lanceolate, long-pointy-tipped, bent back, 6-12 mm long; ovaries superior; stamens 70-100.

Fruits: Drupelets, finely and thinly woolly, in a reddish-purple to black, globe-shaped cluster that falls intact from the dry receptacle (a raspberry), the berries 1-1.2 cm wide.

Rubus nivalis **Dougl.** ***ex*** **Hook.**

snow bramble; snow dewberry

HABITAT/RANGE:

Moist forests and glades in the montane zone; rare in S BC; S to CA and ID.

DESCRIPTION:

General: Perennial, with slender trailing stems and erect flowering branches; stems somewhat woody, trailing, stolon-like, to 2 m long, often rooting at the nodes, fine-hairy and armed with short recurved prickles.

Leaves: Alternate, deciduous, long-stalked, simple (rarely divided into 3 leaflets), the blades egg-heart-shaped, 3-6 cm long, sometimes 3-lobed, double-saw-toothed, green on both surfaces, smooth to sparsely hairy above and below, the leaf-stalks and veins beneath prickly; stipules membranous, narrowly egg-shaped.

Flowers: Inflorescence of 1 (or 2) long-stalked flowers in leaf axils, the stalks not glandular; corollas pink to purple, the petals 5, lance-elliptic, 6-10 mm long, erect; calyces soft-hairy and sometimes bristly, 5-lobed, the lobes lance-egg-shaped, 6-9 mm long, bent back; ovaries superior; stamens about 15, the filaments slender, not flattened.

Fruits: Drupelets, minutely hairy, few to several in a red hemispheric cluster like a rudimentary raspberry, the berries about 0.5 cm wide.

Rubus parviflorus **Nutt. var.** ***parviflorus***

thimbleberry

HABITAT/RANGE:

Moist to mesic open forests, thickets, streambanks, clearings and roadsides in the lowland to subalpine zones; common throughout S BC, south of approximately 56°N; N to S AK, E to ON and S to MI, MN, N MX, NM and CO.

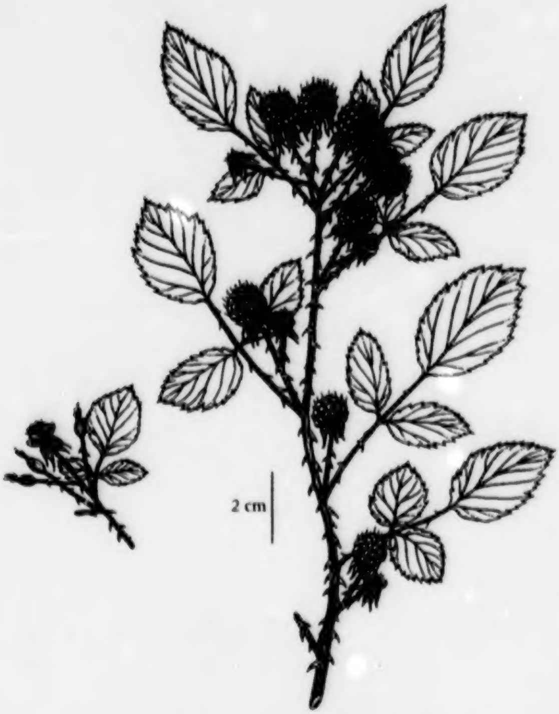
DESCRIPTION:

General: Medium to tall shrub, 1-2.5 m tall, from extensive rhizomes, often thicket-forming; stems erect to ascending, unarmed, young growth fine-hairy and stalked-glandular, becoming smooth eventually; bark grey, flaking-off.

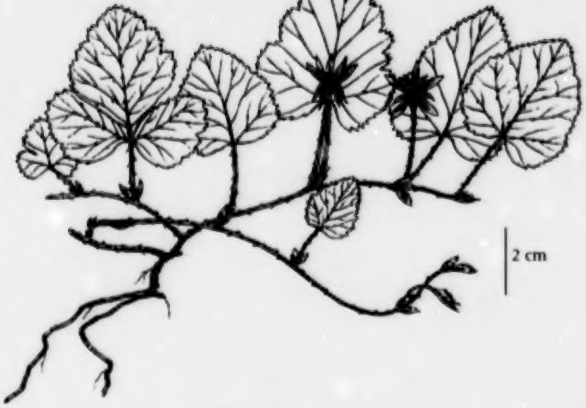
Leaves: Alternate, deciduous, long-stalked, mapleleaf-shaped, 10-20 cm across, palmately 3- to 7-lobed, double-saw-toothed, green and smooth to finely glandular-fuzzy on both surfaces, the stalks with reddish glandular hairs; stipules lanceolate, 6-13 mm long.

Flowers: Inflorescence of 2 to 10 stalked flowers in small, flat-topped, long-stalked, terminal clusters, the flower-stalks glandular-hairy; corollas white, bowl-shaped, the petals 5, spreading, egg-shaped, 10-30 mm long; calyces densely hairy and usually stalked-glandular, 5-lobed, the lobes egg-shaped with long tail-like tips, spreading, 10-20 mm long; ovaries superior; stamens numerous.

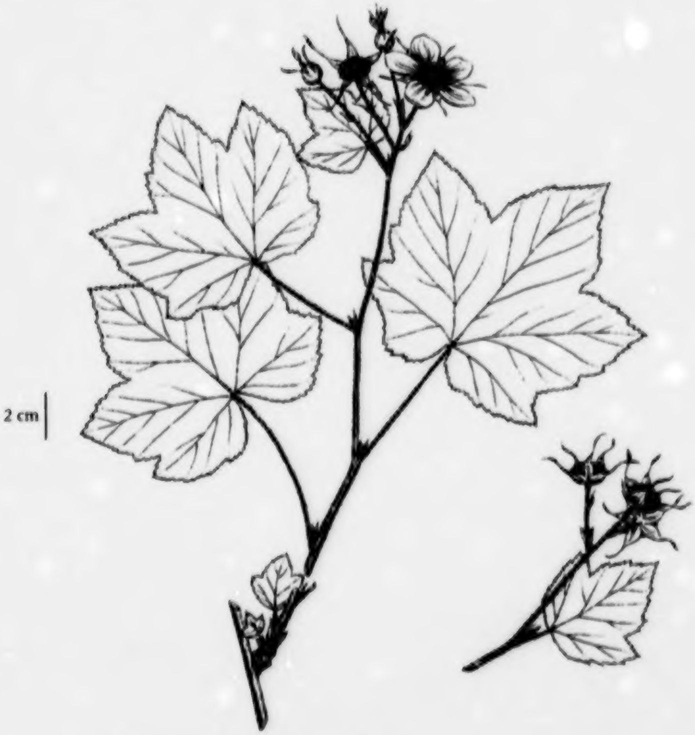
Fruits: Drupelets, velvety-hairy, coherent in a red, hemispheric cluster that falls intact from the dry receptacle (raspberry-like), the berries 1-1.5 cm wide.



Rubus leucodermis **ssp.** ***leucodermis***



Rubus nivalis



Rubus parviflorus **var.** ***parviflorus***

Rubus pedatus **J.E. Sm.**

five-leaved bramble; creeping raspberry

HABITAT/RANGE:

Moist to mesic open forests, glades and streambanks in the lowland to subalpine zones; common throughout BC, especially south; N to AK, E to AB and S to MT, ID and OR.

DESCRIPTION:

General: Perennial herb with slender, long-creeping (to 1 m) stolons or runners, rooting at the nodes and producing short (10 cm or less), erect flowering shoots with 1 to 4 leaves; unarmed, fine-hairy to nearly smooth.

Leaves: Alternate, deciduous (some persisting through the winter), long-stalked, palmately compound; leaflets usually 5, sometimes 3 with the lateral leaflets divided nearly to the base, egg- to diamond-shaped, 1-3 cm long, irregularly coarse-double-toothed to cleft, smooth except for hairy veins beneath; stipules membranous, egg-shaped.

Flowers: Inflorescence of single long-stalked flowers on erect leafy shoots, the stalks very slender, 2-8 cm long; corollas white, the petals 5, oblong, 6-10 mm long, spreading or bent back; calyces smooth or sparsely hairy, 5-lobed, the lobes lanceolate, often few-toothed near the tip, 4-11 mm long, bent back; ovaries superior; stamens numerous.

Fruits: Drupelets, smooth, 1 to 6, more or less coherent in a small red raspberry-like cluster that remains attached to the receptacle, the berries about 1 cm wide.

Rubus pubescens **Raf. var.** ***pubescens***

dwarf red blackberry; trailing raspberry

HABITAT/RANGE:

Moist to wet forests, thickets, streambanks, swamps and bogs in the montane zone; common throughout BC east of the Coast-Cascade Mountains; N to NT, E to NF and S to WA, CO, SD, IN, WV and NJ.

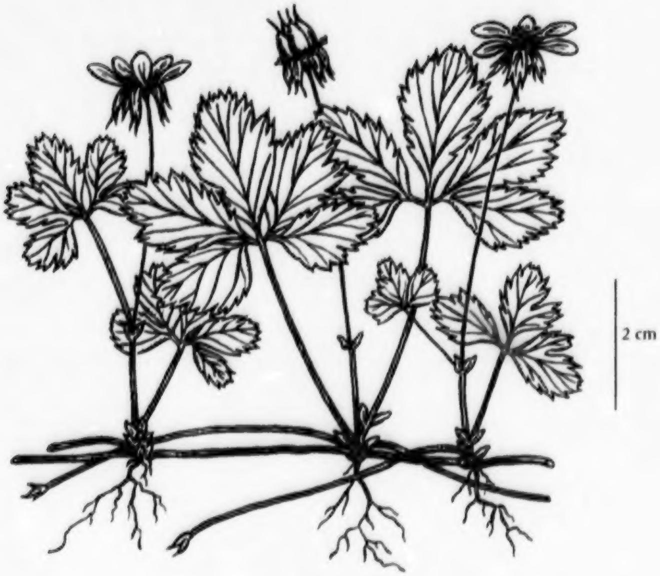
DESCRIPTION:

General: Perennial herb from a rhizome, with slender trailing stems and erect flowering shoots; vegetative stems at first ascending then reclining, creeping and whip-like, 10-100 cm long, often rooting at the nodes and becoming semi-woody, soft-hairy; flowering shoots erect, 15-50 cm tall, leafy, unarmed, soft-hairy.

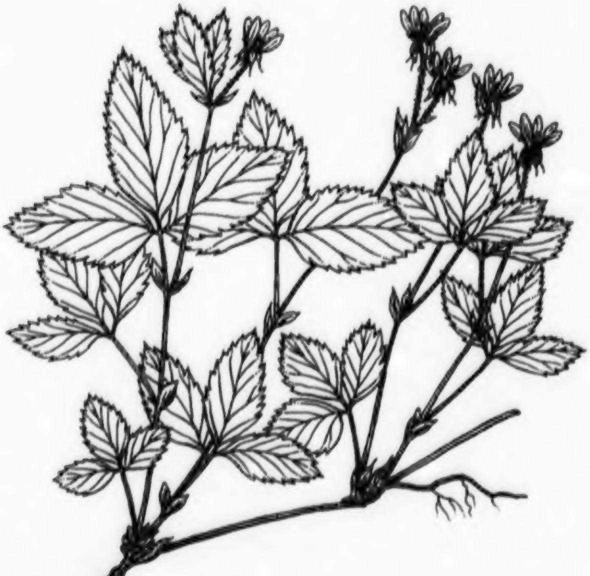
Leaves: Alternate, deciduous, long-stalked, palmately compound, the stalks hairy; leaflets 3, egg-shaped, 2-6 cm long, coarsely single- or double-toothed except near the base, greenish and smooth to hairy above, pale and somewhat hairy especially on the veins beneath; stipules lanceolate.

Flowers: Inflorescence of 1 to 3 stalked flowers on erect leafy shoots, the stalks with raised glands; corollas white, rarely pale pink, the petals 5, lance-oblong to spoon-shaped, 4-10 mm long, erect; calyces hairy and often glandular, 5-lobed, the lobes lanceolate, 3-7 mm long, bent back; ovaries superior; stamens numerous, the filaments broad and flattened.

Fruits: Drupelets, smooth, several, weakly coherent in a dark-red globe-shaped cluster that tardily separates from the spongy receptacle (blackberry-like), the berries to 1 cm wide.



Rubus pedatus



Rubus pubescens var. *pubescens*

Rubus spectabilis **Pursh**
salmonberry
HABITAT/RANGE:
Moist to wet forests, swamps and streambanks in the lowland and montane zones; common in coastal BC; N to AK and S to CA.
DESCRIPTION:

General: Medium to tall shrub, 1-4 m tall, from extensive rhizomes, often thicket-forming; stems erect to arching, unarmed to strongly bristly, especially below, the bristles short and straight; bark yellowish-brown, shredding.

Leaves: Alternate, deciduous, pinnately compound, 7-22 cm long; leaflets 3, egg-shaped, 3-15 cm long, shallowly lobed and double-saw-toothed, sharply long-pointed at the tip, greenish on both surfaces, smooth to sparsely hairy above, paler and hairy on the veins beneath; stipules linear, 5-10 mm long.

Flowers: Inflorescence of mostly 1 or 2 stalked, nodding flowers on short, leafy, lateral branchlets; corollas rosy red to reddish-purple, bowl-shaped, the petals 5, spreading, elliptic to egg-shaped, 10-25 mm long; calyces hairy, 5-lobed, the lobes lance-egg-shaped, spreading, 7-15 mm long; ovaries superior; stamens 75 to 100.

Fruits: Drupelets, smooth, more or less coherent in a yellow or salmon to dark red cluster that falls intact from the semi-fleshy receptacle (raspberry-like), the berries 1.5-2 cm long.

Rubus ursinus **Cham. & Schlecht. ssp. *macropetalus* (Dougl. *ex* Hook.) Taylor & MacBryde** (*R. ursinus* Cham. & Schlecht. var. *macropetalus* [Dougl.] R. Br.)
trailing blackberry; Pacific trailing blackberry
HABITAT/RANGE:
Dry to moist thickets, clearings, waste places and open forests in the lowland to lower montane zones; common in SW BC; S to ID and N CA.
DESCRIPTION:

General: Trailing shrub, 2-5 m or more long; stems barely woody, 2-10 mm in diameter, arching, sprawling and trailing along the ground, some rooting at the tip, with slender, straight to slightly recurved prickles, somewhat hairy when young becoming smooth and glaucous; flowering branches ascending, to 50 cm tall.

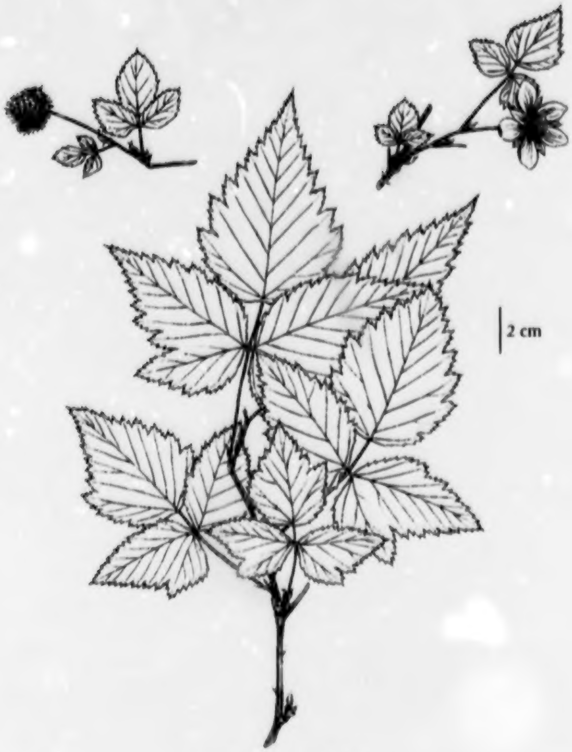
Leaves: Alternate, deciduous, pinnately compound, 5-15 cm long; leaflets 3 (rarely 5), narrowly to broadly egg-shaped, 3-10 cm long, coarsely double-saw-toothed, green and smooth or nearly so on both surfaces, the terminal leaflet largest and often deeply 3-lobed to divided, the leaf-stalks and midveins beneath fine-prickly; stipules linear, 8-11 mm long.

Flowers: Inflorescence of few stalked flowers in small, open, flat-topped terminal clusters, the stalks often purplish stalked-glandular; male and female flowers on separate plants; corollas white, the petals 5, spreading, elliptic and 8-11 mm long in female flowers, lanceolate and 12-17 mm long in male flowers; calyces woolly and usually stalked-glandular, sometimes fine-prickly, 5-lobed, the lobes lanceolate, spreading to bent back, 7-11 mm long; ovaries superior; stamens 75 to 100.

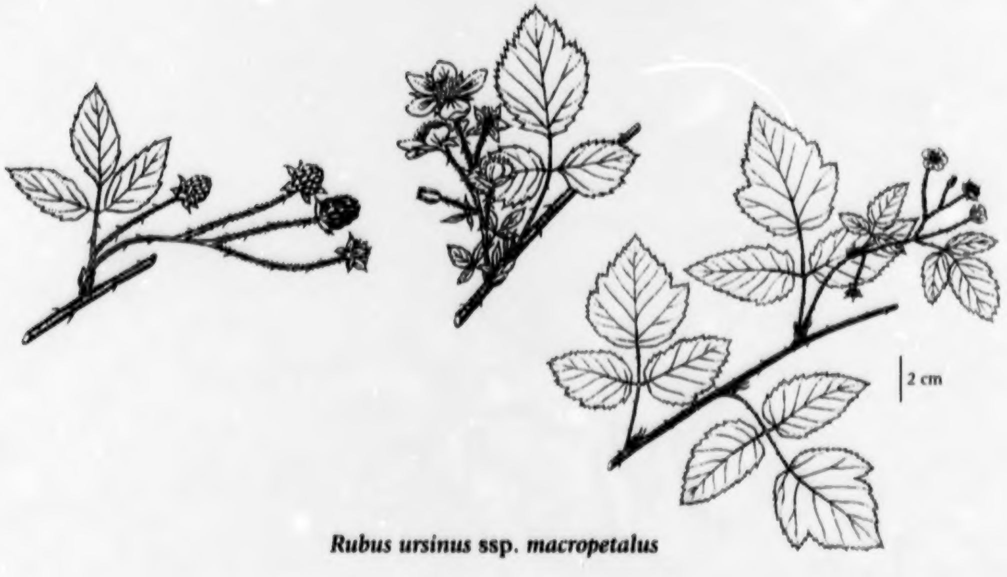
Fruits: Drupelets, generally smooth, coherent in a black oblong to nearly globe-shaped cluster that falls with the fleshy receptacle (a blackberry), the berries 1-1.5 cm long.

SANGUISORBA

1. Plants annuals or biennials; leaflets pinnately cleft; stems very leafy; stamens usually 2 .... *S. annua*
1. Plants perennial; leaflets coarsely toothed; stems sparingly leafy; stamens 4 to many.
    2. Stamens about 12; leaflets usually less than 2 cm long; flowers mostly either male or female; hypanthium of fruit strongly net-veined between the wings .... *S. minor*
    2. Stamens 4; leaflets usually more than 2 cm long; flowers bisexual; hypanthium of fruit smooth or merely wrinkled between the wings.
        3. Stamens about the same length as the calyx-lobes; filaments slender, not club-shaped .... *S. officinalis*



Rubus spectabilis



Rubus ursinus ssp. *macropetalus*

3. **Stamens 2 to 3 times as long as the calyx-lobes; filaments flattened, broadened toward top.**
    4. **Calyx-lobes white or greenish, sometimes pinkish at the apex; inflorescences at first tapering at the top, but cylindric in full bloom** .... ***S. canadensis***
    4. **Calyx-lobes reddish-purple to pink, never pale; inflorescences not tapering upwards, blunt, cylindric or globe-shaped** .... ***S. menziesii***

Sanguisorba annua **(Nutt. *ex* Hook.) T. & G.** (*S. occidentalis* Nutt.)
western burnet

HABITAT/RANGE:

Vernally moist to dry fields, grassy clearings and roadsides in the lowland, steppe and montane zones; infrequent in S BC; S to KS, TX, W MT and S CA.

DESCRIPTION:

General: Annual or biennial herb from a taproot, smooth; stems erect to ascending, 20-80 cm tall, freely branched.

Leaves: Basal leaves withered at flowering time; stem leaves several to many, 3-10 cm long, pinnately compound, with stipules fused to base of long leaf-stalks and forming membranous margins; leaflets 9 to 17, oblong-elliptic, 0.5-2 cm long, pinnately cleft into linear segments; stipules of lower leaves fused to leaf-stalk below, free at the tip, entire, those of the upper leaves free, leaflet-like, pinnately cleft.

Flowers: Inflorescence a dense, cylindric to globe-shaped, long-stalked spike, the spike 0.5-3 cm long, of numerous small flowers; corollas absent; calyces green, 4-lobed, the lobes egg-shaped, 2-3 mm long; ovaries superior; stamens usually 2, the filaments thread-like, about as long as the calyx-lobes.

Fruits: Achenes, enclosed in the 4-angled, thick-edged but barely winged, weakly net-veined, smooth hypanthium.

Sanguisorba canadensis **L.** (*S. canadensis* ssp. *latifolia* [Hook.] Calder & Taylor, *S. sitchensis* C.A. Mey., *S. stipulata* Raf.)
Sitka burnet; Canada burnet

HABITAT/RANGE:

Fens, swamps, streambanks, moist to wet meadows, forest openings and seepage areas in the montane to lower alpine zones; common in much of BC, absent in NE, SC and SE BC; N to AK, E to NF and S to NC, DE, OR and ID.

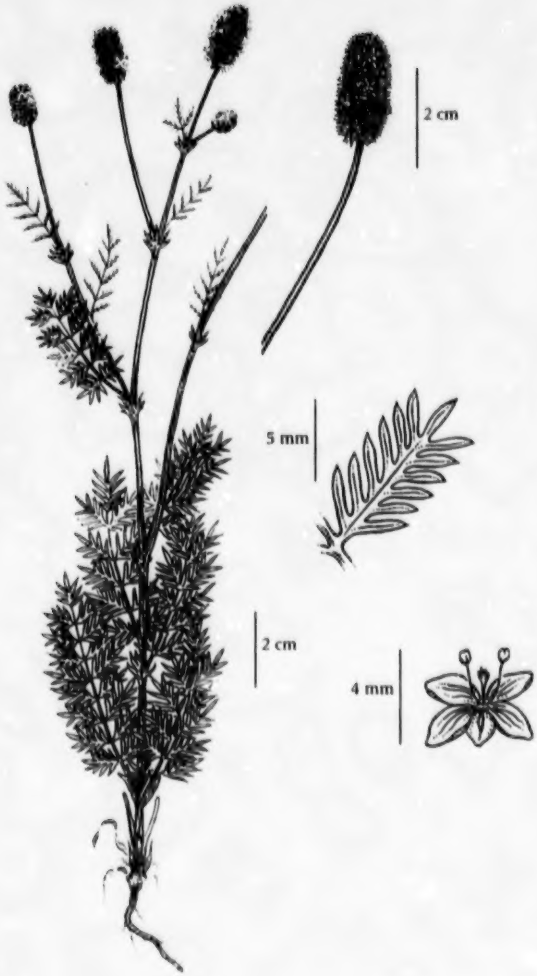
DESCRIPTION:

General: Perennial herb from a stout rhizome, smooth; stems erect to ascending, 25-120 cm tall, sometimes branched above.

Leaves: Basal leaves several, 10-50 cm long, pinnately compound, with stipules fused to base of long leaf-stalks and forming membranous margins; leaflets 7 to 17, egg-shaped to oblong, 2-7 cm long, coarsely saw-toothed; stem leaves alternate, 1 to 3, reduced, with free leaflet-like stipules.

Flowers: Inflorescence a dense, cylindric, long-stalked spike, sometimes tapering at the top, of numerous small flowers, the spike 3-13 cm long; corollas absent; calyces greenish- or yellowish-white, sometimes purplish tinged at the tip, 4-lobed, the lobes oval, 2.5-3 mm long; ovaries superior; stamens 4, the filaments somewhat dilated above, at least 3 times as long as the calyx-lobes.

Fruits: Achenes, enclosed in the 4-angled, slightly winged hypanthium.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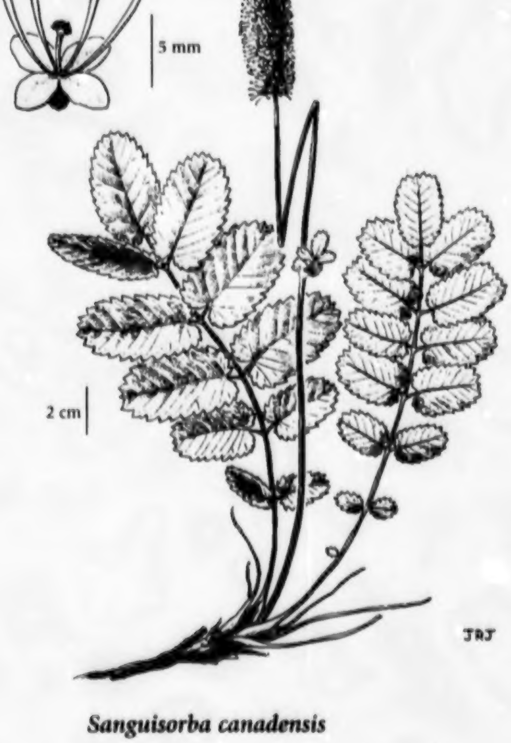
2 cm
4 mm

Sanguisorba annua



Sanguisorba canadensis

***Sanguisorba menziesii* Rydb.**

Menzies' burnet

HABITAT/RANGE:

Fens, bogs, marshes and wet meadows in the lowland and montane zones; rare along the coast; N to AK and S to WA.

DESCRIPTION:

General: Perennial herb from a stout rhizome, smooth; stems erect to ascending, 25-80 cm tall, sometimes branched above.

Leaves: Basal leaves several, 15-40 cm long, pinnately compound, with stipules fused to base of long leaf-stalks and forming membranous margins; leaflets 9 to 15, egg-shaped to oblong, 2-5 cm long, coarsely saw-toothed; stem leaves alternate, 1 or 2, reduced, with free leaflet-like stipules.

Flowers: Inflorescence a dense, cylindric, long-stalked spike of numerous small flowers, the spike 1.5-7 cm long; corollas absent; calyces reddish-purple to pink, 4-lobed, the lobes oval, 2-3 mm long; ovaries superior; stamens 4, the filaments flattened, club-shaped, about twice as long as the calyx-lobes.

Fruits: Achenes, enclosed in the 4-angled, distinctly winged, smooth hypanthium.

Notes: Possibly a hybrid between *S. canadensis* and *S. officinalis*.

***Sanguisorba minor* Scop. ssp. *muricata* (Spach) Nordborg**

salad burnet

HABITAT/RANGE:

Mesic to dry roadsides, grassy meadows and waste places in the lowland zone; infrequent in SW BC; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a rhizome and branched, somewhat woody stem-base; stems erect to ascending, 20-80 cm tall, sometimes branched above, sparsely soft-hairy.

Leaves: Basal leaves several, 5-20 cm long, pinnately compound, with stipules fused to base of long leaf-stalks and forming membranous margins; leaflets 9 to 17, oval to round-oblong, 0.5-2 cm long, coarsely saw-toothed; stem leaves alternate, few, reduced upward, the upper with free leaflet-like stipules.

Flowers: Inflorescence a dense, egg- to globe-shaped, long-stalked spike, 7-25 mm long, of several to many small flowers, the lower flowers male, the upper female or bisexual; corollas absent; calyces green, often purple-tinged, 4-lobed, the lobes elliptic, 3-6 mm long; ovaries superior; stamens about 12, the filaments thread-like, long-exserted, drooping.

Fruits: Achenes, enclosed in the 4-angled, distinctly winged, net-veined and rough-warty hypanthium.

***Sanguisorba officinalis* L.** (*S. officinalis* ssp. *microcephala* [Presl] Calder & Taylor)

great burnet

HABITAT/RANGE:

Bogs and fens in the lowland and montane zones; frequent along the coast; N to AK and YT and S to S CA.

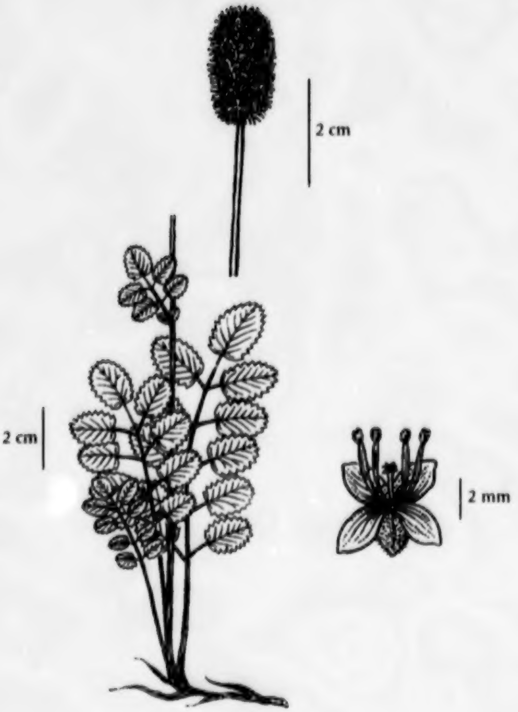
DESCRIPTION:

General: Perennial herb from a thick short rhizome, smooth, usually glaucous; stems erect, 20 to 150 cm tall, often branched above.

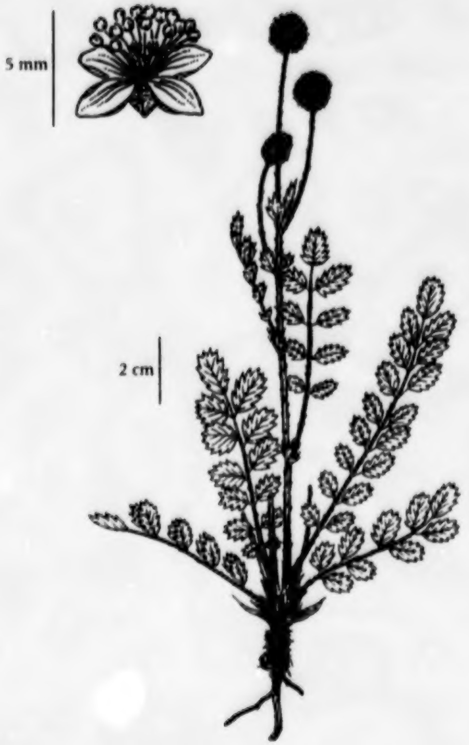
Leaves: Basal leaves several, 10-40 cm long, pinnately compound, with stipules fused to base of long leaf-stalks and forming membranous margins; leaflets 7 to 15, egg-shaped to lance-oblong, 1.5-4 cm long, coarsely saw-toothed, green above, paler beneath; stem leaves 1 or 2, similar but smaller and with fewer leaflets, with free leaflet-like stipules.

Flowers: Inflorescence a dense, cylindric to egg-shaped, long-stalked spike, 1-3 cm long, of numerous small flowers; corollas absent; calyces reddish-purple to maroon, 4-lobed, the lobes egg-shaped, 2-3 mm long; ovaries superior; stamens 4, the filaments linear, not flattened, about the same length as the calyx-lobes.

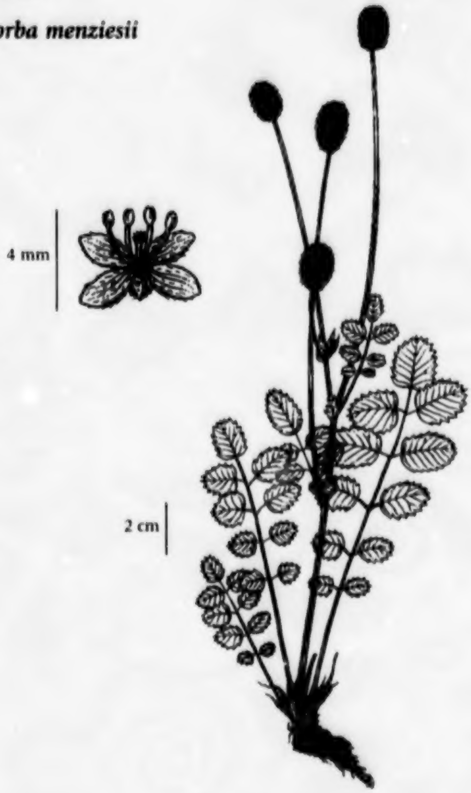
Fruits: Achenes, enclosed in the 4-angled, narrowly winged, hairy hypanthium.



Sanguisorba menziesii



Sanguisorba minor ssp. *muricata*



Sanguisorba officinalis

SIBBALDIA

***Sibbaldia procumbens* L.**

sibbaldia

HABITAT/RANGE:

Dry to moist, gravelly meadows and rocky outcrops and ridges, snowbed areas, forest openings and disturbed soils in the montane to alpine zones; common throughout BC; circumboreal, N to AK, YT and NT, E to PQ and S to NH, CO and CA; Eurasia.

DESCRIPTION:

General: Dwarf perennial herb from a rhizome and branched woody stem-base; stems spreading to prostrate, tufted or mat-forming, 2-15 cm long, branching, stiff-appressed-hairy.

Leaves: Basal and alternate along the horizontal stems, long-stalked, palmately compound; leaflets 3, wedge-shaped, 1-3 cm long, squared-off and 3- to 5-toothed at the tip, often purplish beneath, stiff-appressed-hairy on both surfaces.

Flowers: Inflorescence a small, stalked, leafy-bracted, axillary or terminal cluster of 1 to 15 small flowers, the flowering shoots often shorter than the leaves; corollas pale yellow, saucer-shaped, the petals 5, oval to spoon-shaped, 1-3 mm long; calyces 5-lobed, the lobes triangular, 2-5 mm long, stiff-hairy, alternating with 5 shorter linear bractlets; ovaries superior; stamens 5.

Fruits: Achenes, egg- to pear-shaped, about 1.5 mm long, smooth, brown, on minute flattened stalks.

SORBUS

1. Plants becoming trees over 5 m tall; leaflets usually more than 13, winter buds covered with long soft grey hairs; styles 2 or 3 .... *S. aucuparia*
1. Plants shrubby, usually less than 5 m tall; leaflets rarely as many as 13; winter buds not covered with long soft grey hairs; styles 3 to 5.
    2. Winter buds rusty-hairy; calyces smooth on outside; leaflets blunt or rounded at tip, toothed for not more than 3/4 of their length; styles 4 or 5; fruit red, glaucous .... *S. sitchensis*
    2. Winter buds sticky, sparsely white-hairy; calyces hairy on outside; leaflets sharp-pointed at tip, toothed for most of their length; styles 3 or 4; fruit orange, not glaucous .... *S. scopulina*

***Sorbus aucuparia* L.**

European mountain-ash; rowan

HABITAT/RANGE:

Mesic to moist, open forests, fields and roadsides in the lowland zone; frequent in SW BC, rare northward along the coast; introduced from Eurasia.

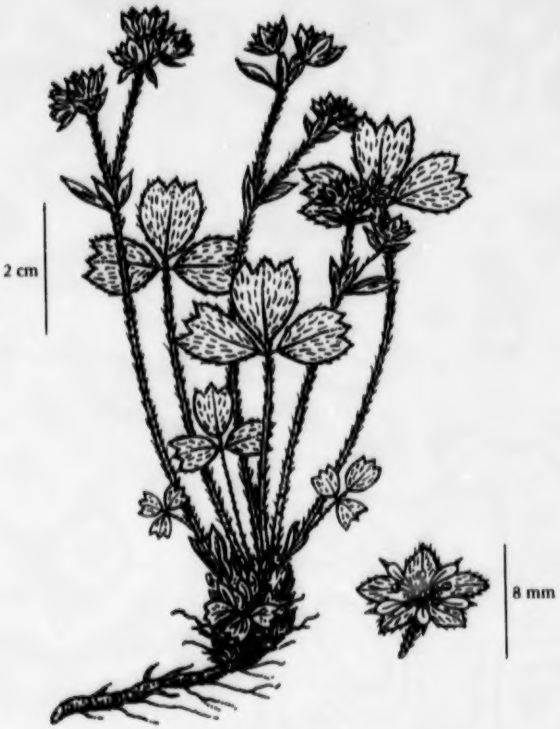
DESCRIPTION:

General: Small tree, 5-15 m tall; branches ascending to spreading, greyish; winter buds and young growth densely greyish-soft-hairy.

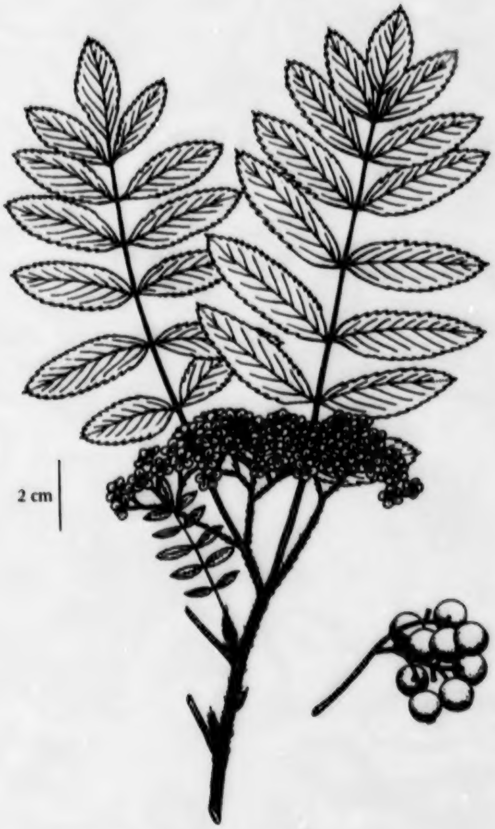
Leaves: Alternate, deciduous, pinnately compound; leaflets 11 to 15 (17), oblong to oblong-lanceolate, 2-6 cm long, sharp-pointed at the tip, mostly smooth, saw-toothed almost to the base.

Flowers: Inflorescence a flat-topped, branched cluster of numerous (75 or more) small flowers, the branches more or less white-hairy; corollas white, the petals 5, nearly circular, 3-4 mm long; calyces hairy, 5-lobed, the lobes triangular; ovaries inferior; stamens 15-20.

Fruits: Berry-like pomes (like miniature apples), globe-shaped, 9-11 mm wide, scarlet, not glaucous, 2- to 5-chambered; seeds 1 or 2 per chamber.



Sibbaldia procumbens



Sorbus aucuparia

Sorbus scopulina **Greene**

western mountain-ash

HABITAT/RANGE:

Mesic to moist glades, streambanks, forest edges and open forests in the montane and subalpine zones; frequent throughout BC, except rare W of Coast-Cascade Mountains; N to AK, E to AB and S to ND, WY, NM and N CA.

DESCRIPTION:

General: Medium to tall shrub, 1-5 m tall; stems several, erect to spreading, freely branched, reddish-brown to yellowish; winter buds and young growth sticky, somewhat white- or grey-hairy.

Leaves: Alternate, deciduous, pinnately compound; leaflets (7) 9 to 13, oblong-lanceolate to narrowly elliptic, 2-8 cm long, usually short-tapering to a sharp-pointed tip, smooth, finely saw-toothed almost to the base.

Flowers: Inflorescence a flat-topped to somewhat rounded, branched cluster of numerous (70 to 200 or more) small flowers, the branches more or less white-hairy; corollas white to cream, the petals 5, oval, 4-6 mm long; calyces white-hairy, 5-lobed, the lobes triangular; ovaries inferior; stamens 15-20.

Fruits: Berry-like pomes (like miniature apples), nearly globe-shaped, 7-10 mm long, orange to scarlet, not glaucous, 2- to 5-chambered; seeds 1 or 2 per chamber.

Notes: Two varieties occur in BC:

1. Leaflets often 13; stipules usually shed before end of blooming; plants from E of Coast-Cascade Mountains .... var. *scopulina*

1. Leaflets rarely more than 11; stipules persistent until after blooming; plants from W slope of Cascade Mountains .... var. *cascadensis* (G.N Jones) C.L. Hitchc.

Sorbus sitchensis **Roemer**

Sitka mountain-ash

HABITAT/RANGE:

Mesic to moist open forests, forest edges, streambanks, rockslides, thickets and meadows in the montane to alpine zones; common throughout BC (except NE BC), especially southward; N to AK and YT, E to AB and S to ID, MT and N CA.

DESCRIPTION:

General: Medium to tall shrub, 1-4 m tall; stems several, erect to spreading, sparingly branched, greyish-red; winter buds and young growth not sticky, somewhat rusty-hairy.

Leaves: Alternate, deciduous, pinnately compound; leaflets 7 to 11, oblong to oblong-egg-shaped, 2-7 cm long, rounded to blunt at the tip, smooth above, sometimes rusty-hairy below, rather coarsely saw-toothed for not more than 3/4 their length.

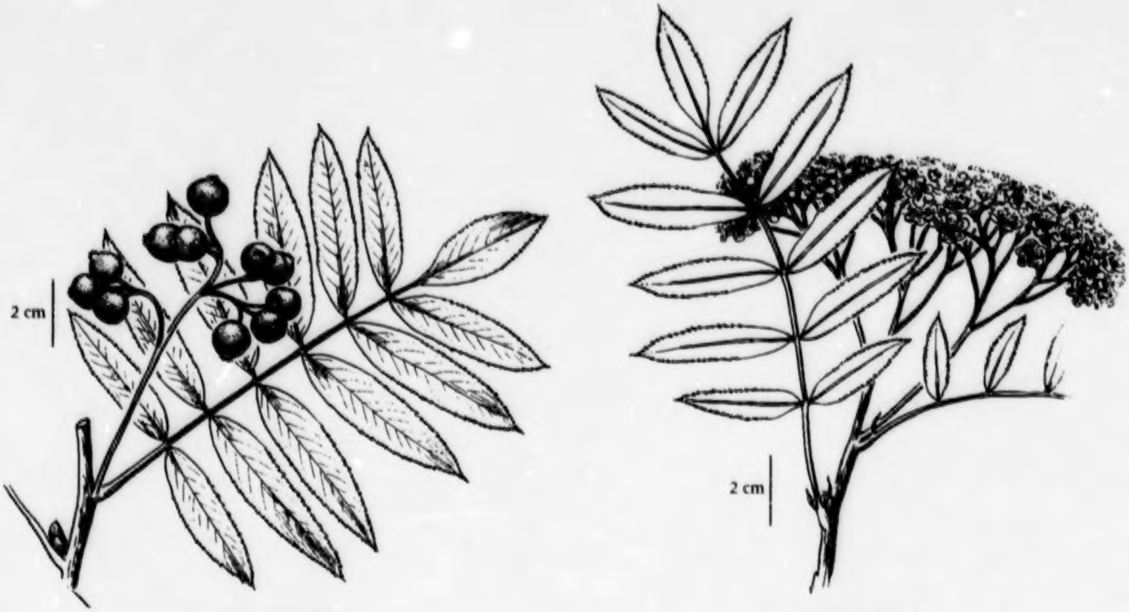
Flowers: Inflorescence a half-rounded, branched cluster of numerous (15 to 80) small flowers, the branches often minutely rusty-hairy; corollas white to cream, the petals 5, oval, 4-6 mm long; calyces mostly smooth, 5-lobed, the lobes triangular; ovaries inferior; stamens 15-20.

Fruits: Berry-like pomes (like miniature apples), nearly globe-shaped to ellipsoid, 8-10 mm long, red, glaucous, 2- to 5-chambered; seeds 1 or 2 per chamber.

Notes: Two sympatric varieties occur in BC:

1. Leaflets entire or toothed mostly above midlength .... var. *grayi* (Wenzig) C.L. Hitchc.

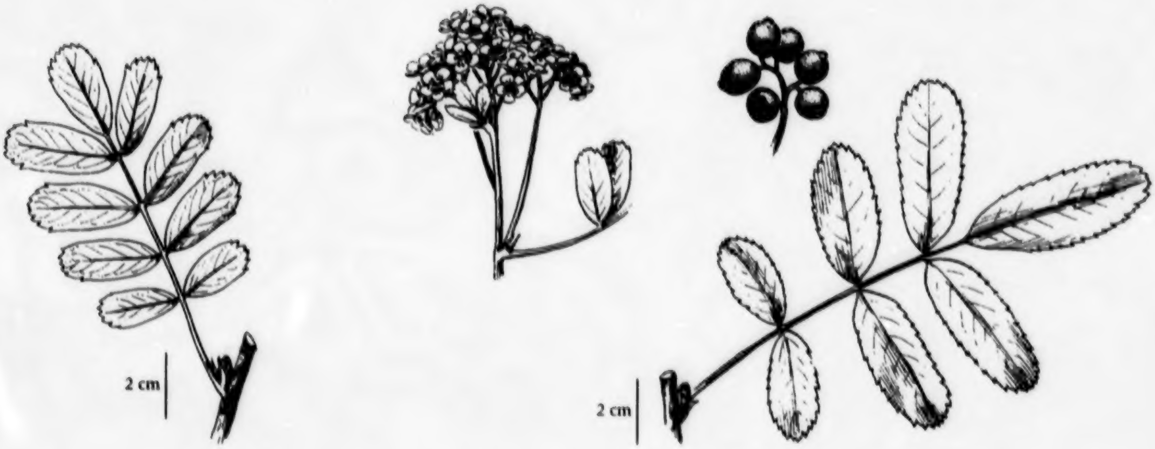
1. Leaflets toothed one-half to three-quarters their length .... var. *sitchensis*



var. *scopulina*

var. *cascadensis*

Sorbus scopulina



var. *grayi*

var. *sitchensis*

Sorbus sitchensis

SPIRAEA

1. Inflorescences flat-topped to half-rounded, wider than long.
    2. Petals pink .... *S. splendens*
    2. Petals white.
        3. Young growth and outer surface of calyces hairy; calyx-lobes bent back .... *S. stevenii*
        3. Young growth and outer surface of calyces smooth; calyx-lobes not bent back .... *S. betulifolia*
1. Inflorescences panicles, round-conic to cylindric, mostly longer than wide.
    2. Inflorescences conic or somewhat rounded, 1 to 2 times as long as wide; petals pale pink to whitish .... *S. pyramidata*
    2. Inflorescences cylindric to narrowly conic, much elongated, several times longer than wide; petals mostly deep pink .... *S. douglasii*

***Spiraea betulifolia* Pall. ssp. *lucida* (Dougl. *ex* Greene) Taylor & MacBryde**
birch-leaved spirea

HABITAT/RANGE:

Dry to moist open forests, rocky slopes and clearings in the lowland, steppe and montane zones; common throughout BC east (mostly) of the Coast-Cascade Mountains and S of 56°N; S to CA, MT and ID.

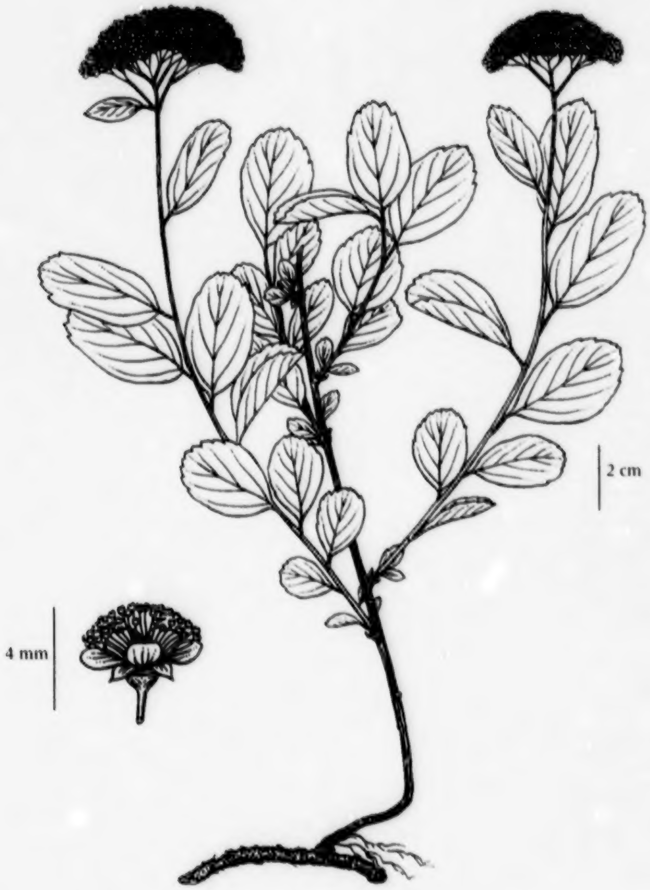
DESCRIPTION:

General: Low shrub, 20-60 (90) cm tall, from long creeping rhizome; stems erect, smooth, with thin wiry branches.

Leaves: Alternate, deciduous, short-stalked, oval to oblong-egg-shaped, 2-7 cm long, coarsely double-toothed mostly above the middle, dark green above, paler below, smooth.

Flowers: Inflorescence a branched, nearly flat-topped, terminal cluster of numerous small flowers; corollas white, sometimes pink-tinged, the petals 5, circular, about 2 mm long; calyces smooth on the outside, 5-lobed, the lobes triangular, erect to spreading, about 1 mm long; ovaries superior; stamens numerous.

Fruits: Follicles, usually 5, about 3 mm long, beaked, somewhat leathery, smooth except sometimes a few long hairs along the suture, shining; seeds several, spindle-shaped.



Spiraea betulifolia ssp. *lucida*

***Spiraea douglasii* Hook.**

hardhack; Douglas' spirea (ssp. *douglasii*); pink spirea; Menzies' spirea (ssp. *menziesii*)

HABITAT/RANGE:

Fens, swamps, bogs, streambanks, lake margins, and moist to wet thickets and open forests in the lowland and montane zones; common throughout BC, S of about 56°N; S to CA and ID.

DESCRIPTION:

General: Low to medium shrub, 0.5-2.5 m tall, from creeping rhizome, often forming thickets; stems erect, much-branched, the slender branchlets usually somewhat woolly, later becoming smooth.

Leaves: Alternate, deciduous, short-stalked, oblong to egg-shaped, 3-10 cm long, coarsely toothed mostly above the middle, dark green and smooth above, paler and woolly-hairy to smooth beneath.

Flowers: Inflorescence a branched, narrowly conic to cylindric, dense terminal cluster of numerous small flowers, the cluster several times longer than broad, the branches often woolly; corollas deep to pale pink, the petals 5, egg-shaped to round-elliptic, about 2 mm long; calyces fine-hairy to nearly smooth on the outside, 5-lobed, the lobes triangular, bent back, about 1 mm long; ovaries superior; stamens numerous.

Fruits: Follicles, usually 5, short-beaked, 2-3 mm long, somewhat leathery, smooth except sometimes a few long hairs along the suture, shining; seeds several, spindle-shaped.

Notes: Two subspecies occur in BC:

1. Leaves greyish-woolly beneath; plants of the coast .... ssp. *douglasii*

1. Leaves smooth to hairy, but not greyish-woolly beneath; plants from throughout southern two-thirds of BC .... ssp. *menziesii* (Hook.) Calder & Taylor

***Spiraea pyramidata* Greene**

pyramid spirea

HABITAT/RANGE:

Dry to moist open forests, edges of forests and wetlands, thickets, gullies and clearings in the montane zone; locally frequent throughout BC east of the Coast-Cascade Mountains and S of 56°N; S to ID and N OR.

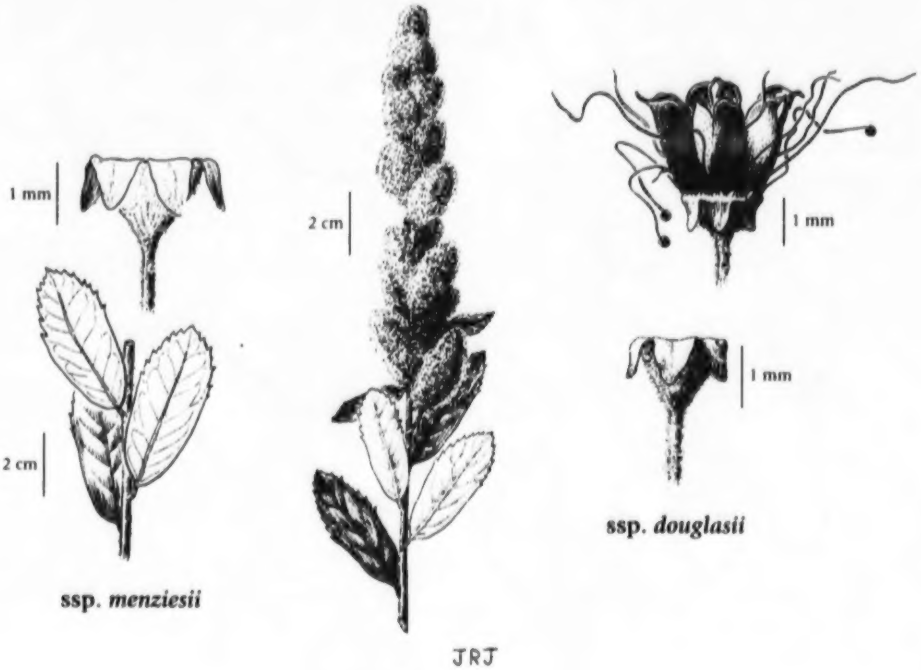
DESCRIPTION:

General: Low shrub, 30-100 cm tall, from a creeping rhizome; stems erect to spreading, with thin wiry branches, usually fine-hairy above, but especially among the flowers.

Leaves: Alternate, deciduous, short-stalked, narrowly egg-shaped to lance-oblong, 2-9 cm long, usually coarsely toothed above the middle, smooth to short-hairy, at least beneath.

Flowers: Inflorescence a branched, dense, broadly conic, terminal cluster of numerous small flowers, the cluster 1 to 2 times as long as broad, the branches usually fine-hairy; corollas pale pink to whitish, the petals 5, circular, 2-2.5 mm long; calyces sparsely hairy on the outside, 5-lobed, the lobes triangular, bent back, about 1 mm long; ovaries superior; stamens numerous.

Fruits: Follicles, fine-hairy to smooth.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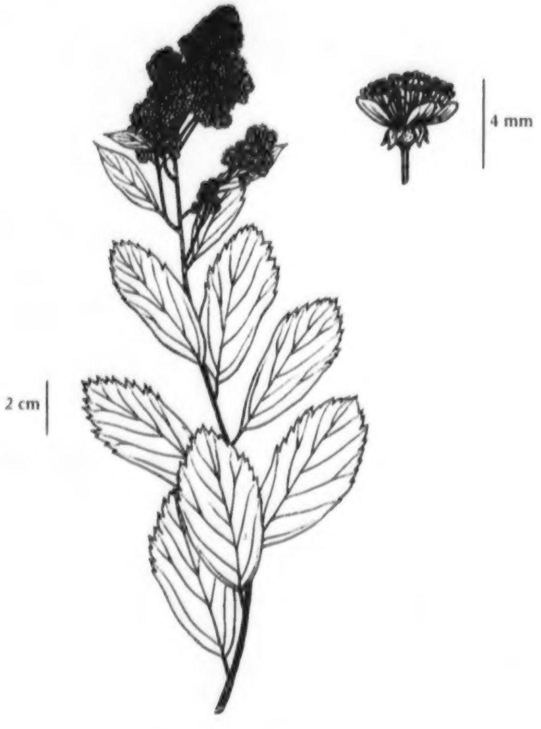
Spiraea douglasii



Spiraea pyramidata

Spiraea splendens **Baumann & K. Koch ssp.** ***splendens*** (*S. densiflora* Nutt. *ex* Greenm. var. *densiflora*)
subalpine spirea

HABITAT/RANGE:

Moist forest openings and edges, thickets, meadows, streambanks and open rocky slopes in the montane and subalpine zones; infrequent in S BC; amphiberingian, E to SK and S to SD, WY and OR; Asia.

DESCRIPTION:

General: Low shrub, 30-100 cm tall, from strong creeping rhizome; stems erect to spreading, smooth, with thin wiry branches.

Leaves: Alternate, deciduous, short-stalked, oval to oblong-elliptic, 1.5-4 cm long, blunt-toothed mostly above the middle, bright green above, paler and prominently veined below, smooth on both surfaces or fine-hairy beneath.

Flowers: Inflorescence a branched, nearly flat-topped, terminal cluster of numerous small flowers, the branches sometimes fine-hairy; corollas rosy-pink, the petals 5, narrowly egg-shaped, 1.5-2 mm long; calyces mostly smooth on the outside, 5-lobed, the lobes triangular, erect to spreading, about 1 mm long; ovaries superior; stamens numerous.

Fruits: Follicles, 4 or 5, beaked, 3-4 mm long, somewhat leathery, smooth except sometimes a few long hairs along the suture, shining; seeds several, spindle-shaped.

Spiraea stevenii **(Schneid.) Rydb.** (*Spiraea beauverdiana* Schneid.)
Steven's spirea

HABITAT/RANGE:

Moist to wet streambanks, meadows and thickets in the montane to alpine zones; amphiberingian, locally frequent in extreme NW BC; N to AK, YT and NT; NE Asia.

DESCRIPTION:

General: Low shrub, 20-50 (80) cm tall, from long creeping rhizome; stems erect to spreading, with thin wiry branches, the young growth hairy.

Leaves: Alternate, deciduous, short-stalked, oblong-elliptic to narrowly egg-shaped, 1.5-4 cm long, shallowly toothed most of their length, green and smooth above, paler and smooth or short-hairy below.

Flowers: Inflorescence a branched, nearly flat-topped to half-rounded, terminal cluster of several to many small flowers; corollas white, the petals 5, nearly circular, about 2 mm long; calyces hairy on the outside, 5-lobed, the lobes triangular, eventually reflexed, about 1 mm long; ovaries superior; stamens numerous.

Fruits: Follicles, usually 5, about 3 mm long, beaked, somewhat leathery, short-hairy; seeds several, spindle-shaped.

RUBIACEAE[35]

1. Calyx teeth evident; flowers in small heads with a basal involucre of leaflike bracts .... *Sherardia*
1. Calyx teeth obsolete; flowers in open inflorescences .... *Galium*

GALIUM[36]

1. Plants annuals from a short taproot.
    2. Fruits about 1 mm long; plants freely branched .... *G. parisiense*
    2. Fruits 1.5-5 mm long; plants simple or slightly branched.
        3. Leaves 2-4 in a whorl .... *G. bifolium*
        3. Leaves 8 (or sometimes 6) in a whorl.
            4. Flowers 1.0-1.5 mm wide, greenish-yellow; fruits 1.5-3 mm long .... *G. spurium*

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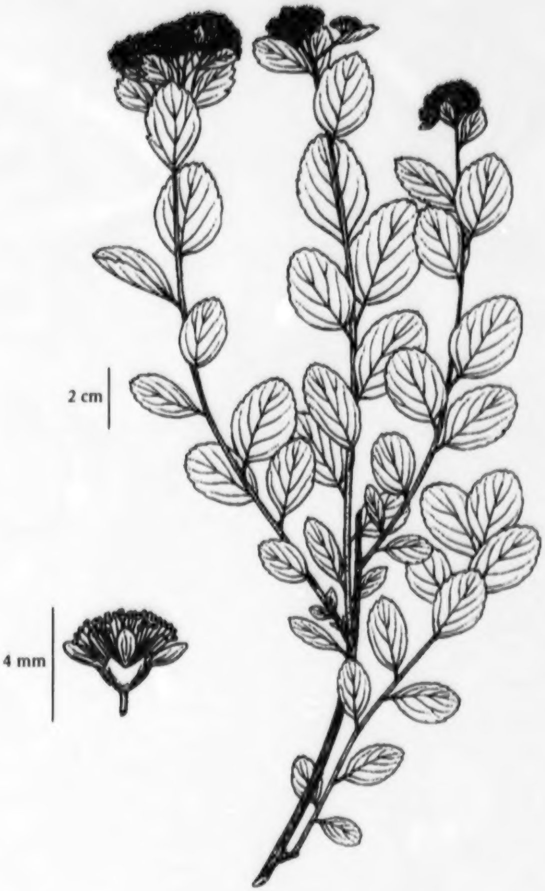
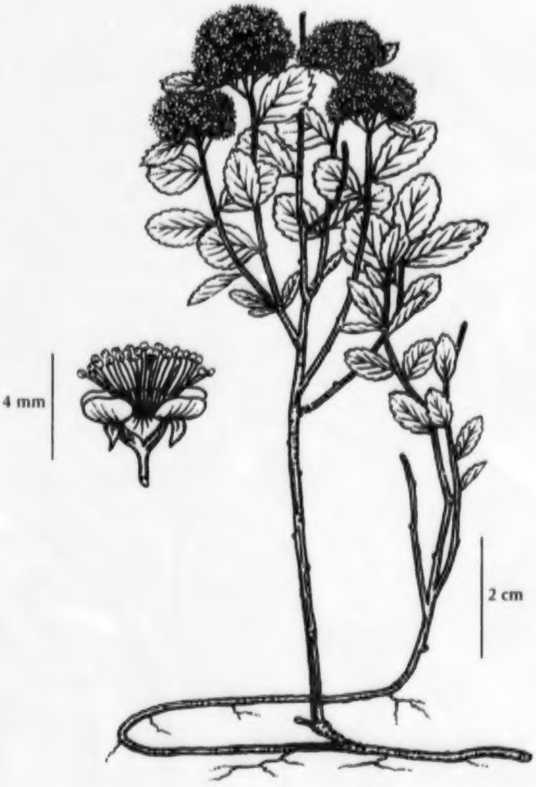
[35] Key adapted from Hitchcock and Cronquist (1973).

[36] Key adapted from Puff (1976).



Spiraea splendens ssp. *splendens*



Spiraea stevenii

4. Flowers 1.6-2 mm wide, white; fruits usually 3-5 mm long .... *G. aparine*

1. Plants perennials from creeping rhizomes.
    5. Corollas funnel-shaped, the tubes not much, if at all, shorter than the lobes .... *G. odoratum*
    5. Corollas wheel-shaped, the tubes much shorter than the lobes.
        6. Fruits with hooked hairs.
            7. Leaves 4 in a whorl, 3-veined; stems smooth .... *G. kamtschaticum*
            7. Leaves 6 (or sometimes 5) in a whorl, 1-veined; stems usually rough on the angles.
                8. Fruit bristles short, less than 0.4 mm long .... *G. mexicanum*
                8. Fruit bristles longer, 0.5-1.0 mm long .... *G. triflorum*
        6. Fruits without hooked hairs.
            9. Fruits long, spreading hairy .... *G. multiflorum*
            9. Fruits smooth or inconspicuously short-hairy.
                10. Flowers numerous in terminal, compound and much-branched, showy inflorescences.
                    11. Leaves 4 in a whorl, 3-veined, not sharp-tipped; plants common throughout BC, native .... *G. boreale*
                    11. Leaves 6-8 (or sometimes 12) in a whorl, 1-veined, sharp-tipped; plants rare, introduced in S BC.
                        12. Flowers white; stems smooth in the inflorescence; leaves linear-lanceolate, flat .... *G. mollugo*
                        12. Flowers bright yellow; stems usually hairy, at least in the inflorescence; leaves needle-like .... *G. verum*
                10. Flowers solitary or few in small, inconspicuous inflorescences.
                    13. Corollas white; stems erect or ascending; plants rare in NE BC .... *G. labradoricum*
                    13. Corollas greenish-white; stems reclining; plants common throughout BC .... *G. trifidum*

***Galium aparine* L.**

cleavers

HABITAT/RANGE:

Moist to mesic fields, waste places, beaches and open forests in the lowland, steppe and montane zones; common on Vancouver Island, less frequent on Queen Charlotte Islands, SW BC and SC BC; circumpolar, N to S AK, E to NF and S to FL, TX and CA; Eurasia.

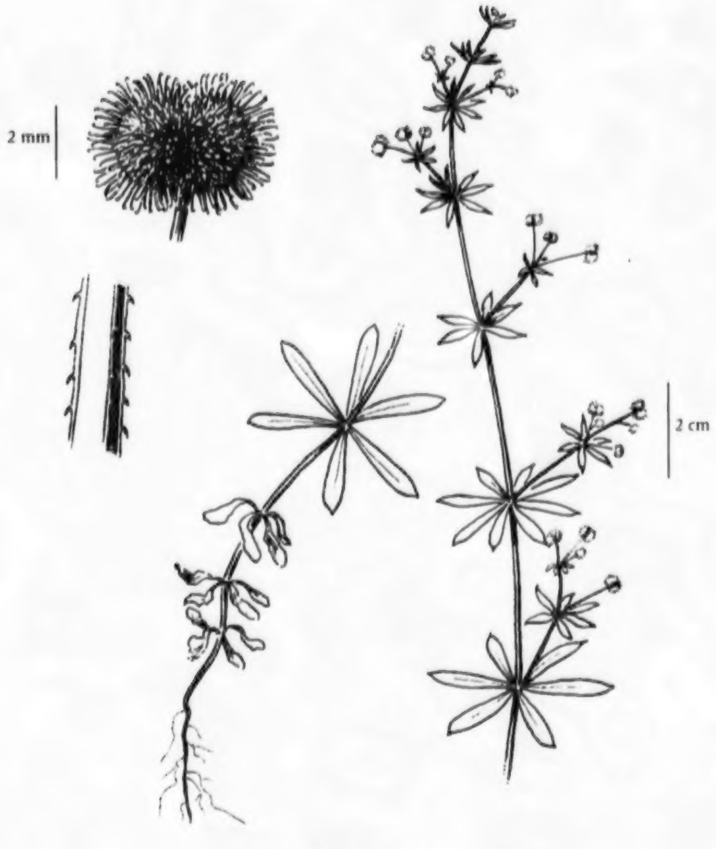
DESCRIPTION:

General: Annual herb from a taproot; stems weak, climbing or prostrate, solitary, few branched, square, short-hairy on the angles, the hairs pointed downwards, 10-100 cm tall/long.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 8 (sometimes 6), narrowly oblanceolate, 1-4 (7) cm long, lowermost stalked, upper ones unstalked, entire, awn-tipped, 1-veined, bristly-hairy along the margins, bristly-hairy above, with hooked hairs, the hairs pointed backwards.

Flowers: Inflorescence of 3-5, stalked, terminal flowers on branchlets in most leaf axils; corollas saucer-shaped, white, 1.6-2 mm wide, 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 3-5 mm wide, with numerous, short, hooked hairs.



Galium aparine

Galium bifolium **S. Wats.**

thin-leaved bedstraw

HABITAT/RANGE:

Moist to dry sites in the steppe and montane zones; infrequent throughout S BC; E to SW AB and S to CO and CA.

DESCRIPTION:

General: Annual herb from a taproot; stems erect, solitary, simple or slightly branched, round, smooth, 5-20 cm tall.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 4, with one pair smaller, upper leaves sometimes opposite, lanceolate to linear-elliptic, larger leaf pairs 1-2 cm long, smooth, 1-veined, entire, unstalked.

Flowers: Inflorescence of solitary, stalked, axillary flowers; corollas white, cup-shaped, 3.5-7 mm wide, 3-lobed, soon deciduous; calyces obsolete.

Fruits: Nutlets, 2, 2.5-3.5 mm long, with numerous, short, hooked hairs.

Galium boreale **L.**

northern bedstraw

HABITAT/RANGE:

Moist to dry meadows, grasslands, shrublands, rocky slopes, open forests and shorelines from the lowland to upper subalpine zones; common throughout BC except absent on the Queen Charlotte Islands and the north coast; circumpolar, N to AK, YT and NT, E to PQ, NS and NB and S to DE, OH, MO, TX and CA; Eurasia.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems erect or ascending, many, simple or few-branched, short-bearded below the nodes, angled, smooth, 20-80 cm tall.

Leaves: Basal leaves soon deciduous; stem leaves in whorls of 4, lanceolate to linear with rounded tips, 1.5-4.5 cm long, smooth or roughened below on the veins, 3-veined, often bearing axillary branches with smaller leaves, unstalked.

Flowers: Inflorescence of numerous, stalked, terminal flowers on branchlets in the upper axils, the flowers both male and female on separate plants; corollas creamy-white, saucer-shaped, 3.5-7 mm wide, 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 1.8-2.0 mm long, with numerous, short, straight or curled hairs or rarely smooth.

Galium kamtschaticum **Steller *ex* Schult. & Schult.**

boreal bedstraw; northern wild-licorice

HABITAT/RANGE:

Moist streambanks, thickets, forests and talus slopes in the lowland and montane zones; infrequent in coastal and C BC; amphiberingian, N to AK, E to NF and S to NY and ME; E Asia.

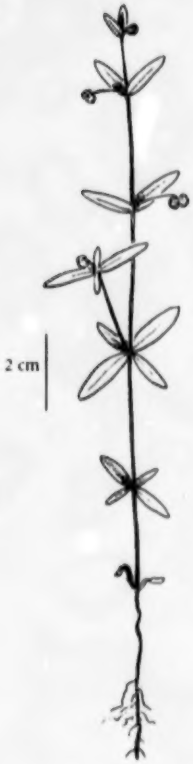
DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems erect, solitary, simple, round, smooth or sparsely hairy, 10-30 cm tall.

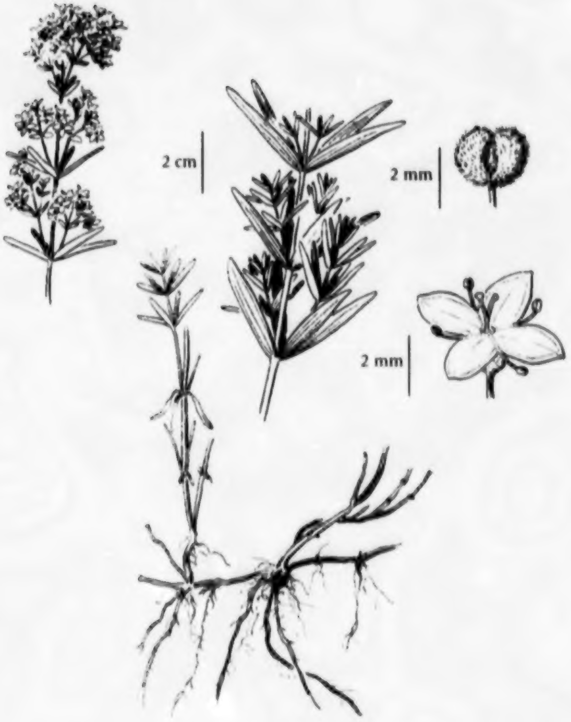
Leaves: Basal leaves soon deciduous or lacking; stem leaves in whorls of 4, egg-shaped to elliptic, awl-like at the tips, 1-3 cm long, sparsely hairy, with marginal hairs, these pointing forward, 3-veined, unstalked, the lower whorls smaller than upper ones.

Flowers: Inflorescence a small open cluster of 1-3 (6) stalked flowers arising from the centre of the uppermost leaf whorl; corollas whitish to greenish, 2.5-3.5 mm wide, 4-lobed; calyces obsolete.

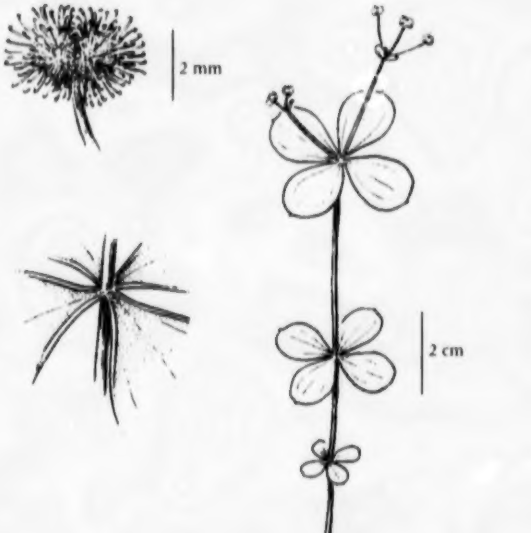
Fruits: Nutlets, 2, 1.2-1.5 mm long, with numerous, short, hooked hairs.



Galium bifolium



Galium boreale



Galium kamtschaticum

***Galium labradoricum* (Wieg.) Wieg.**
northern bog bedstraw

HABITAT/RANGE:

Bogs, wet meadows and moist forests in the montane zone; rare in NE BC; E to NF and S to NJ, OH and MN.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems ascending to erect, solitary, simple or branched above, hairy at the nodes, otherwise smooth, 10-30 cm tall.

Leaves: Basal leaves soon deciduous; stem leaves in whorls of 4, linear-oblanceolate, 8-14 mm long, short-hairy on the margins, 1-veined, soon recurved or drooping.

Flowers: Inflorescence of 3, stalked, mostly terminal flowers; corollas white, 1.8-2 mm wide, 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 1-2 mm long, smooth.

***Galium mexicanum* Kunth ssp. *asperulum* (A. Gray) Dempster** (*G. asperrimum* A. Gray var. *asperulum* A. Gray)
rough bedstraw

HABITAT/RANGE:

Mesic forest margins in the lowland and montane zones; rare in SW BC, known only from Mission; S to MT, NM, CA and MX.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems prostrate to ascending or climbing, several, branched, angled, short-hairy on the angles, the hairs pointed downwards, 20-80 cm long.

Leaves: Basal leaves few, soon deciduous; stem leaves mostly in whorls of 6, often 4 on the smaller upper branches, lanceolate to narrowly elliptic, 1-3.5 cm long, the tips rigidly pointed, 1-veined, short-hairy on the margins and the midveins below, rarely smooth, unstalked.

Flowers: Inflorescence loose clusters of 2-6, stalked, terminal flowers on branchlets in most upper leaf axils; corollas bell-shaped, whitish, 2-3 mm wide, 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 1.5-2 mm long, with numerous, short, scarcely hooked bristles.

***Galium mollugo* L.**
white bedstraw

HABITAT/RANGE:

Mesic to dry fields, roadsides and disturbed sites; rare in extreme SW and SC BC; introduced from Eurasia.

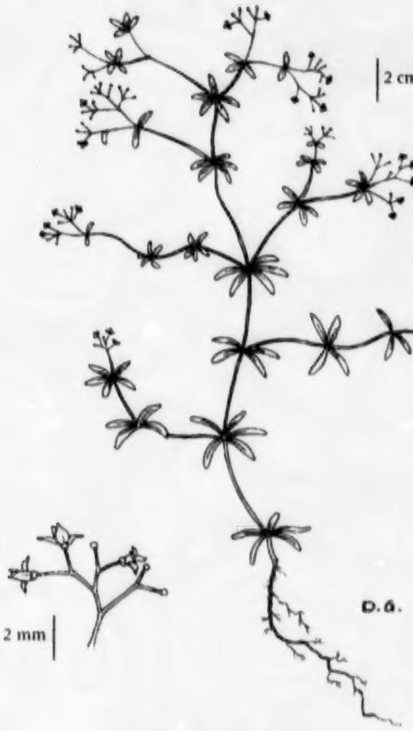
DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems prostrate or ascending to erect, several, branched, round, smooth or sometimes short spreading-hairy below, 30-120 cm tall/long.

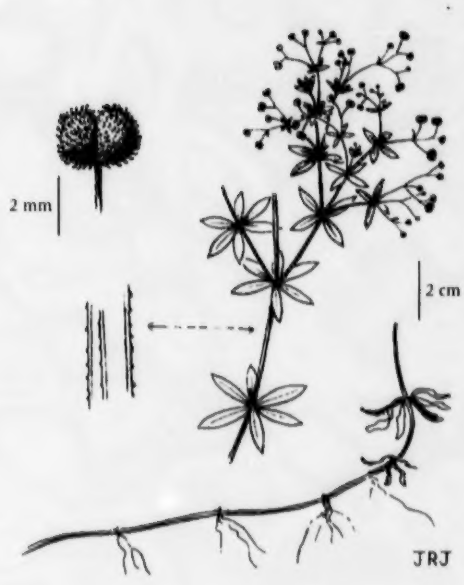
Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 6-8, sometimes 4 on the smaller branches, linear to oblanceolate, 1-3 cm long, 1-veined, short stiff-hairy on the margins, unstalked.

Flowers: Inflorescence loose terminal clusters of many stalked flowers on branchlets in most upper axils; corollas saucer-shaped, whitish, 2-4 mm wide, 4-lobed; calyces obsolete.

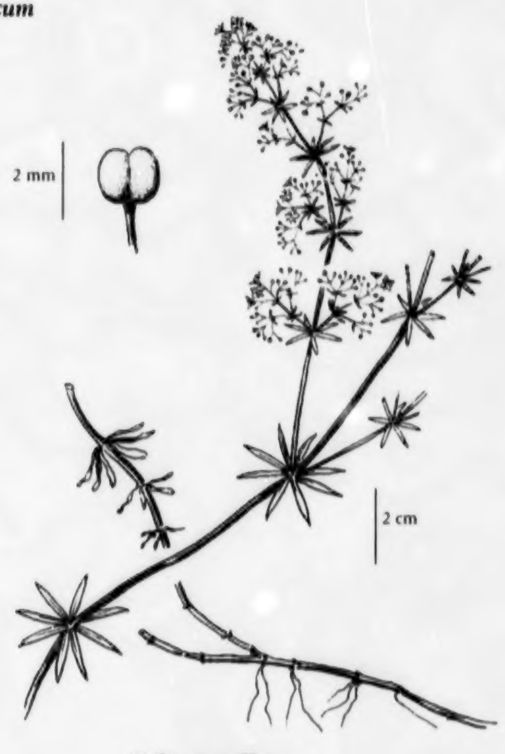
Fruits: Nutlets, 2, 1-1.5 mm long, smooth.



Galium labradoricum



Galium mexicanum ssp. *asperulum*



Galium mollugo

Galium multiflorum Kell.

multi-flowered bedstraw

HABITAT/RANGE:

Dry forests and rocky slopes in the montane zone; rare in SC BC, known only from Meese Lake; S to UT, NV and CA.

DESCRIPTION:

General: Perennial herb from a creeping, often woody rhizome; stems ascending to erect, several, branched, round, smooth to hairy, 15-35 cm tall.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 4, narrowly lanceolate to broadly egg-shaped, with one pair smaller, the larger pair 1-4 cm long, rounded, awl-tipped, 3-veined, smooth to densely hairy, unstalked.

Flowers: Inflorescence a relatively narrow, elongate terminal cluster of many, stalked, terminal flowers on branchlets in most axils; corollas bell-shaped, pale greenish-yellow, 2-4 mm wide, 4-lobed; calyces rudimentary.

Fruits: Nutlets, 2, 2.5-3 mm long, with numerous, long, straight, whitish bristles.

Galium odoratum (L.) Scop. (*Asperula odorata* L.)

sweet woodruff

HABITAT/RANGE:

Disturbed sites; rare garden escape on S Vancouver Island and Saltspring Island; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems ascending to erect, several, branched, 4-angled, bristly at the nodes otherwise smooth, 15-45 cm tall.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 6-10 (typically 8), oblanceolate, 1-veined, short-hairy on the margins and the veins beneath, 2.5-4 cm long.

Flowers: Inflorescence a loose cluster of many stalked flowers; corollas funnel-shaped, white, 4-6 mm long, 4-lobed, the lobes about equal to the tubes.

Fruits: Nutlets, 2, 2-3 mm long, with numerous, short, hooked bristles.

Galium parisiense L. (*G. parisiense* var. *leiocarpum* Tausch.)

wall bedstraw

HABITAT/RANGE:

Dry disturbed sites in the lowland zone; rare in SW BC, known only from Lasqueti Island; introduced from Eurasia.

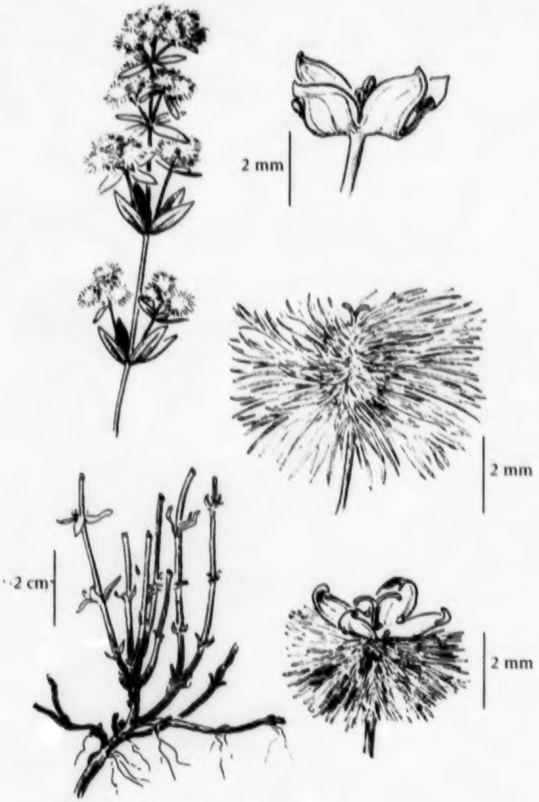
DESCRIPTION:

General: Annual herb from a taproot; stems erect, solitary, freely branched, 4-angled, evidently or scarcely rough short-hairy on the angles, the hairs pointed downwards, 10-40 cm tall.

Leaves: Basal leaves soon deciduous; stem leaves in whorls of 5-8, linear to linear-oblanceolate, 1-veined, rough short-hairy on the margins, 0.4-1 cm long.

Flowers: Inflorescence a loose, terminal cluster of many stalked flowers on the numerous branches; corollas saucer-shaped, white or purplish, about 1 mm long, 4-lobed, the lobes erect.

Fruits: Nutlets, 2, about 1 mm long, glandular-roughened or with short, hooked hairs.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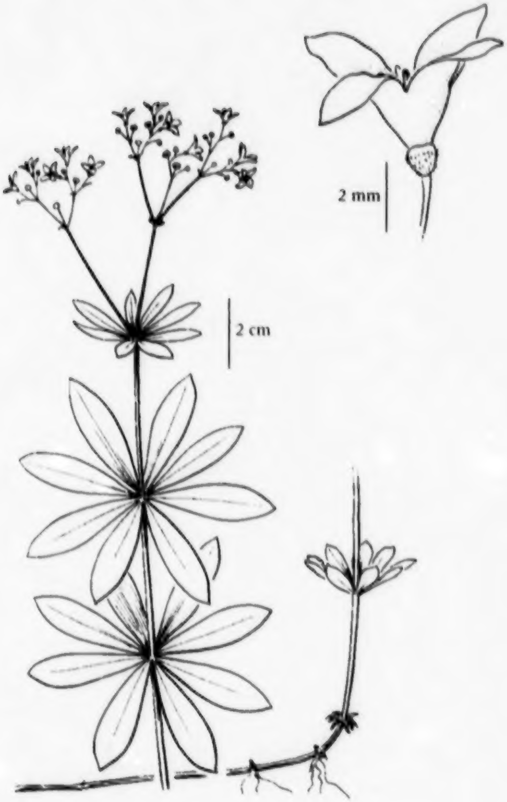
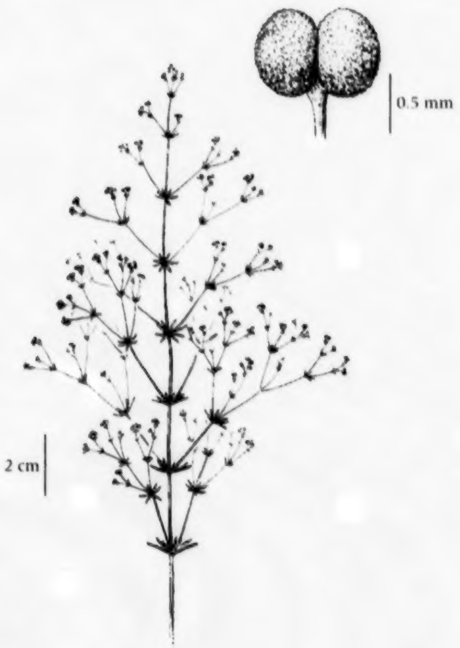
Galium multiflorum



Galium odoratum



Galium parisiense

Galium spurium

false cleavers

HABITAT/RANGE:

Mesic to dry roadsides and waste places; rare in the lower Fraser Valley; introduced from Eurasia.

DESCRIPTION:

General: Annual herb from a taproot; stems weak, climbing or prostrate, solitary, few branched, square, short-hairy on the angles, the hairs pointed downwards, 40-100 cm tall/long.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 8 (sometimes 6), linear lanceolate to lanceolate, 1-4 (7) cm long, lowermost stalked, upper ones unstalked, entire, awn-tipped, 1-veined, bristly-hairy along the margins, bristly-hairy above, with hooked hairs, the hairs pointed backwards.

Flowers: Inflorescence of 3-5, stalked, terminal flowers on branchlets in most leaf axils; corollas saucer-shaped, greenish-cream, 1-1.5 mm wide, 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 1.5-3 mm long, smooth or with numerous, short, hooked hairs.

***Galium trifidum* L.** (*G. columbianum* Rydb., *G. cymosum* Wieg. and *G. trifidum* ssp. *pacificum* [Wieg.] Piper = ssp. *columbianum*; *G. subbiflorum* [Wieg.] Rydb. = ssp. *subbiflorum*).

small bedstraw

HABITAT/RANGE:

Wet shorelines, swamps, bogs, fens, ditches and meadows from the lowland to subalpine zones; ssp. *columbianum* – common in coastal BC; ssp. *subbiflorum* – frequent in BC east of the Coast-Cascade Mountains; ssp. *trifidum* – rare in SW BC; ssp. *columbianum* – amphiberingian, N to AK and S to ID, NV and CA, E Asia; ssp. *subbiflorum* – N to YT and W NT, E to AB and S to CO, NM and NV; ssp. *trifidum* – circumpolar, N to AK, YT and NT, E to NF and S to ME, MI, IL, SD, CO and OR, Eurasia.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems prostrate to ascending or climbing, several, branched, 4-angled, short-hairy on the angles, the hairs pointed downwards, sometimes smooth, 5-60 cm long.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 4 (sometimes 5-6), linear to narrowly elliptic, 5-20 mm long, round-tipped, 1-veined, short-hairy on the margins and sometimes on the veins below but otherwise smooth, 1-veined, unstalked.

Flowers: Inflorescence of 1-3, stalked flowers in compact terminal and axillary clusters; stalks smooth to sparsely or densely short-hairy, the hairs pointed downwards; corollas saucer-shaped, white, 1.2-2.5 mm wide, 3- or 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 1-1.8 mm long, smooth.

Notes: Three subspecies occur in BC:[17]

1. Corollas 2.0-2.5 mm in diameter .... ssp. *columbianum* (Rydb.) Hultén
1. Corollas 1.2-1.8 mm in diameter.
    2. Axillary or terminal partial inflorescences 1- or 2-flowered; fruiting stalks smooth to slightly rough short-hairy .... ssp. *subbiflorum* (Wieg.) Puff
    2. Terminal partial inflorescences 1- to 3-flowered; fruiting stalks conspicuously rough short-hairy .... ssp. *trifidum*

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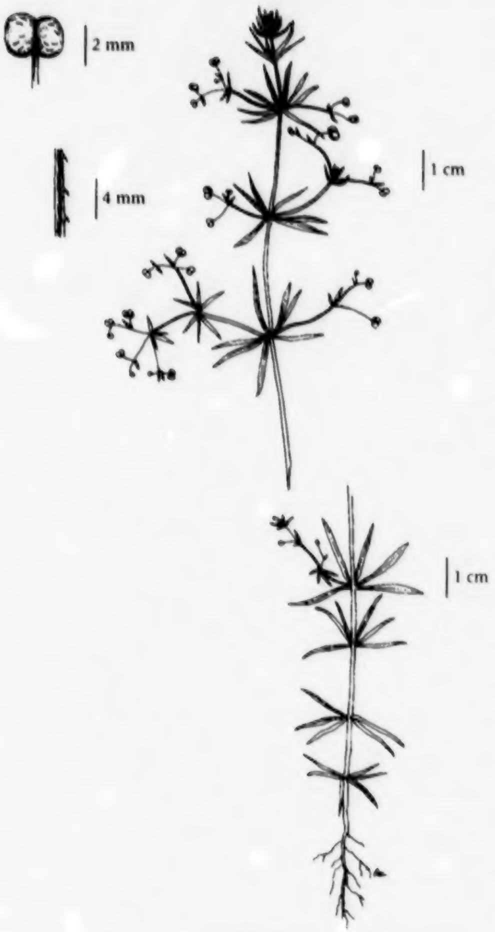
[17] Key adapted from Puff (1976).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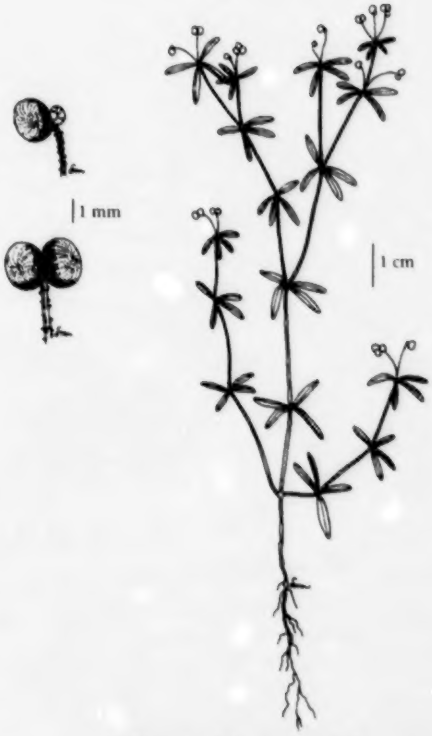
4 mm
1 cm
1 cm

Galium spurium



Galium trifidum ssp. *trifidum*

Galium triflorum **Michx.**

sweet-scented bedstraw

HABITAT/RANGE:

Moist to mesic streambanks, thickets and forests in the lowland, steppe and montane zones; common throughout BC; circumpolar, N to AK, YT and SW NT, E to NF and S to FL, CA and MX; Eurasia.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems prostrate to ascending or climbing, several, branched, square, short-hairy on the angles, the hooked hairs pointed downwards, 20-80 cm long.

Leaves: Basal leaves few, soon deciduous; stem leaves in whorls of 6, sometimes 4 or 5 on the smaller branches, narrowly elliptic to oblanceolate, 1-veined, 1.5-4.5 cm long, unstalked, short-hairy on the margins and with hooked bristles on the veins beneath, the hairs pointed forward.

Flowers: Inflorescence of usually 3, stalked flowers in loose, open axillary or terminal clusters; corollas saucer-shaped, whitish, 2-3 mm wide, 4-lobed; calyces obsolete.

Fruits: Nutlets, 2, 2-2.5 mm long, with numerous, short, hooked white to brown bristles.

Galium verum **L.**

yellow bedstraw

HABITAT/RANGE:

Mesic to dry fields and roadsides; rare on Vancouver Island, the Gulf Islands, SC BC and SE BC; introduced from Eurasia.

DESCRIPTION:

General: Perennial herb from a creeping rhizome; stems decumbent to erect, several, branched, finely hairy, at least in the inflorescence, 25-120 cm tall/long.

Leaves: Basal leaves lacking; stem leaves in whorls of 6-8, sometimes up to 12, narrowly linear with margins rolled under, 1-veined, the tips with rigid points, finely hairy, 1-3 cm long, unstalked.

Flowers: Inflorescence a terminal, leafy-bracted, compound panicle of numerous short-stalked flowers, corollas saucer-shaped, bright yellow, 4-lobed, 2-4 mm wide.

Fruits: Nutlets, 2, 1-1.5 mm long, smooth.

SHERARDIA

Sherardia arvensis **L.**

field madder

HABITAT/RANGE:

Fields and waste places; locally frequent on Vancouver Island, the Gulf Islands and the lower mainland, rare on the Queen Charlotte Islands; introduced from Europe.

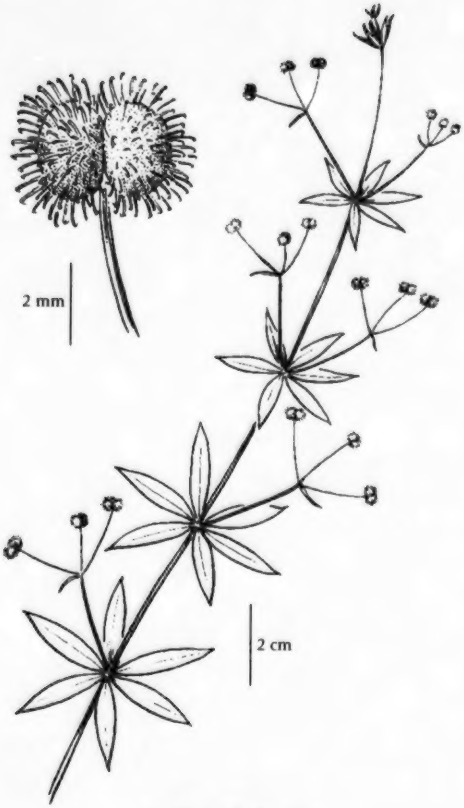
DESCRIPTION:

General: Annual herb from a taproot; stems prostrate to erect, many, simple or branched at the base, 4-angled, spreading-hairy or bristly-hairy, the hairs pointed downward, 8-16 cm tall/long.

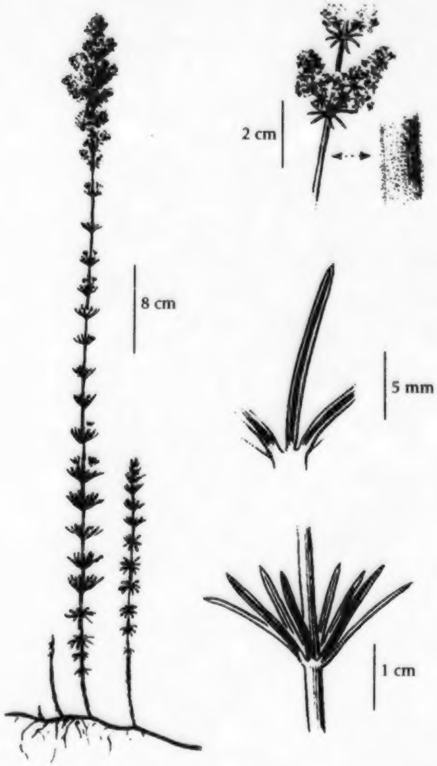
Leaves: Basal leaves few, reduced; stem leaves in whorls of 5 or 6, lanceolate to oblanceolate, 0.5-2 cm long, stiff-hairy with the hairs pointed forward, margins papery.

Flowers: Inflorescence of many, stalked, axillary or terminal flowers in heads of 2 or 3; corollas funnel-shaped, pinkish, 2.5-3 mm long, 4-lobed; involucres 4-9 mm long, the 8 leaf-like bracts fused below; calyces 4-lobed.

Fruits: Nutlets, 2, 1.8-2 mm long, finely hairy.



Galium triflorum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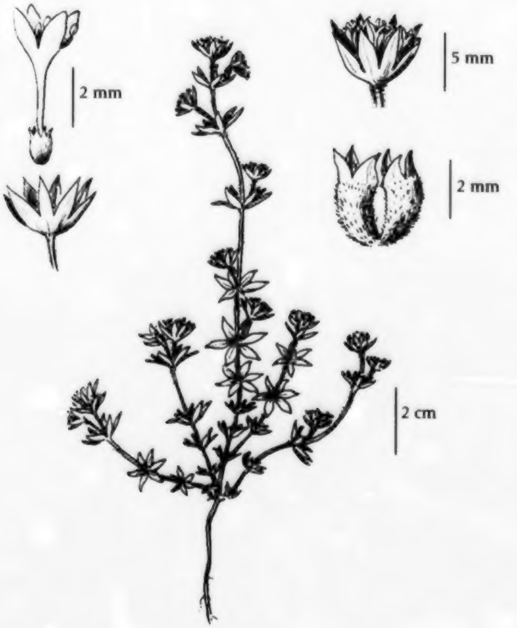
Galium verum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5 mm
2 mm
2 cm

Sherardia arvensis

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APPENDIX I – EXCLUDED SPECIES

OROBANCHACEAE

***Orobanche grayana* Beck** (= *O. californica* C & S ssp. *grayana* [Beck] Heck.). The specimens cited by Boivin (1966-1967) and Scoggan (1979) from SW BC are actually *O. californica* ssp. *californica*.

***Orobanche pinorum* Geyer *ex* Hook.** This species, collected once at Duncan in 1914, is probably no longer part of our flora.

OXALIDACEAE

***Oxalis suksdorfii* Trel.** Reported by Taylor and MacBryde (1977) but no BC material known.

PAPAVERACEAE

***Argemone mexicana* L.** This garden escape, cited by Taylor and MacBryde (1977), has not been collected in over 60 years.

***Rhomneya coulteri* Harvey.** Cited by Taylor and MacBryde (1977) but no BC material known.

POLEMONIACEAE

***Gilia congesta* Hook.** This species of the western U.S., reported by Rydberg (1922), does not extend into B.C.

***Linanthus pharnaceoides* (Benth.) Greene.** Material of this species, cited by Macoun (1897), has been reidentified as *L. septrionalis* (Scoggan 1979).

***Polemonium humile* Willd.** This name was apparently misapplied to specimens of *P. boreale* by Henry (1915).

POLYGALACEAE

***Polygala vulgaris* L.** Cited by Eastham (1947) from Comox, this Eurasian species has not been recollected in 40 years.

POLYGONACEAE

***Eriogonum umbellatum* Torr. var. *hausknectii* (Dammer) Jones.** Reported from BC by Hitchcock *et al.* (1964) but no material seen.

***Fagopyrum tataricum* (L.) Gaertn.** Reported by Taylor and MacBryde (1977) but no material seen.

***Polygonum erectum* L.** Cited by Taylor & MacBryde (1977) and Straley, *et al.* (1985) but all specimens are based on misidentifications of *P. achoreum*.

***Polygonum phytolaccaefolium* Meisn. *ex* Small** (= *Aconogonum phytolaccaefolium* [Meisn. *ex* Small] Small *ex* Rydb.). The citation of this species for BC by Taylor and MacBryde (1977) is probably based on the Pacific Coast range alluded to by both Hitchcock et al. (1964) and Welsh (1974). No BC material has been located in this study and it is quite possible that the interpretation of this complex by Hultén (1968) is correct and explains the absence of the taxa from BC. Hultén (1968) recognized *Polygonum alaskanum* (Small) Wight *ex* Harshb. (*P. alpinum* All. ssp. *alaskanum* [Small] Welsh *sensu* Welsh [1974]) as occurring in AK, YT and NT and *P. phytolaccaefolium* as occurring south of the continental glaciation in the NW US.

***Polygonum pensylvanicum* L.** (*Persicaria pensylvanica* [L.] Small). The Agassiz material reported by Scoggan (1978) was not located. It is not likely to persist more than a few years.

***Polygonum perfoliatum* L.** Known only from a single roadside collection taken in 1954.

***Rheum rhaponticum* L.** Cited by Taylor and MacBryde (1977) and Scoggan (1978), this species sometimes escapes in garden dumpings but does not usually persist.

***Rumex fennicus* Murb.** (= *R. pseudonatronatus* Borbas). Cited by Boivin (1968-1969) from Davey Lake, BC and taken up by Taylor and MacBryde (1977) but no other collections known.

***Rumex x pratensis* Mert. & Koch.** Reported by Taylor and MacBryde (1977) but no material seen.

PORTULACACEAE

***Claytonia saxosa* Brand**. The citation of a specimen at V by Taylor and MacBryde (1977) has recently been reidentified as *C. perfoliata*.

***Talinum spinescens* Torr**. Collections of this species, reported by Henry (1915) and others, are actually *T. sediforme*.

PRIMULACEAE

Androsace filiformis. Reported by T.A. Suttill (1991) but no material has been located.

Douglasia montana. Reported by Straley *et al.* (1985) and taken up by T.A. Suttill (1991) but no material has been located.

Douglasia nivalis. Reported by T.A. Suttill (1991) but no specimens seen.

***Primula veris* L**. This species has been reported by Taylor & MacBryde (1977) and Scoggin (1979) but no recent specimens have been seen in the herbaria examined. It is probably a garden escape which does not persist.

Samolus valerandi. Reported by Taylor & MacBryde (1977), but no material seen.

Soldanella montana. This European species was reported by Scotter (1998) from alongside a trail in Mount Robson Provincial Park. Its presence at this location is difficult to explain; the seed is probably of garden origin and may not persist.

RANUNCULACEAE

***Aconitum compactum* (Reichenbach) Gayer**. A garden escape, cited by Brayshaw (1989), which does not persist in our area.

***Anemone deltoidea* Hook**. Collections cited by Macoun (1883-1890) and Raup (1934) have been reidentified (Scoggan 1978).

***Aquilegia vulgaris* L**. This common garden plant does not persist outside of cultivation in our area.

***Clematis alpina* (L.) P. Mill**. Reported by Boivin (1966-1967) and Taylor and MacBryde (1977), this introduction has been collected only once and is probably not persistent.

***Clematis hirsutissima* Pursh** (*C. douglasii* Hook.). Cited as occurring in our range by Abrams (1944) and Hitchcock *et al.* (1964) but yet to be recorded in BC.

***Coptis occidentalis* (Nutt.) T. & G**. This species, reported by Hitchcock *et al.* (1964) and subsequently treated by Taylor and MacBryde (1977) and Brayshaw (1989), does not reach our range.

***Delphinium nuttallii* A. Gray**. Erroneously reported by Henry (1915) and Abrams (1944).

***Nigella damascena* L**. This ornamental garden plant, cited by Brayshaw (1989), rarely escapes in our area.

***Paeonia brownii* Dougl**. Cited by Macoun (1883-1890) and Henry (1915) but not part of our flora.

***Ranunculus hebecarpus* H. & A**. Reported from ballast at Nanaimo by Macoun (1883-1890) but never recollected.

***Ranunculus lobbii* (Hiern.) A.Gray**. This species, last collected in the Victoria area in 1948, has probably been extirpated.

***Ranunculus micranthus* (A. Gray) Nutt. *ex* T. & G**. The collections reported by Macoun (1883-1890) are based upon specimens of *R. abortivus* (Scoggan 1978).

***Ranunculus suksdorfii* A. Gray**. All BC material of this species was referred to *R. eschscholtzii* by Fisher *et al.* (1979). In SE BC some collections approach *R. suksdorfii* in leaf tip characteristics but often most other plants in the population are good examples of *R. eschscholtzii*.

ROSACEAE

***Alchemilla xanthochlora* Rothman**. Cited in Taylor (1973), but the UBC specimen, upon which this was based was re-identified as *A. subcrenata*.

***Cotoneaster franchetii* Boiss**. Cited in Taylor & MacBryde (1977) but no specimens seen.

***Cotoneaster microphyllus* Wall. *ex* Lindl.** Cited in Taylor & MacBryde (1977), but no specimens seen.

***Crataegus laevigata* (Poir.) DC.** Cited in Taylor & MacBryde (1977), but specimens are referrable to *C. monogyna*.

***Filipendula rubra* (Hill) B.L. Robins.** Cited in Taylor & MacBryde (1977), but no specimens seen.

***Potentilla arguta* Pursh ssp. *arguta*.** Cited in Taylor and MacBryde (1977), but no specimens seen.

***Potentilla multifida* L.** Cited in Taylor (1973) and Taylor & MacBryde (1977) but no specimens seen.

***Rosa woodsii* Lindl. ssp. *woodsii*.** Cited in Taylor and MacBryde (1977), this prairie subspecies is not known from BC.

***Rubus bifrons* Vest *ex* Trautv.** Cited in Taylor and MacBryde (1977), but no specimens seen. The record is likely based on misidentifications of *Rubus allegheniensis*.

RUBIACEAE

***Asperula arvensis* L.** Cited by Taylor and MacBryde (1977) from an old collection at Essondale. This species is not established in BC.

***Galium palustre* L.** Reported for BC by Taylor and MacBryde (1977) but no material seen.

APPENDIX II - NAME CHANGES

The following are name changes that have been made since the publication of Douglas *et al.* (1990, 1991).

Androsace alaskana = Douglasia alaskana
Anemone narcissiflora = A. narcissiflora ssp. sibirica
Anemone riparia = A. virginiana var. cylindroidea
Armeria maritima ssp. purpurea = A. maritima ssp. sibirica
Ceanothus velutinus var. laevigatus = C. velutinus var. hookeri
Centunculus minimus = Anagallis minima
Crataegus suksdorfii = C. douglasii var. suksdorfii
Dodecatheon cusickii = D. pulchellum ssp. cusickii
Isopyrum savilei = Enemion savilei
Microsteris gracilis = Phlox gracilis ssp. gracilis
Myosurus aristatus = M. apetalus var. borealis
Papaver alpinum = P. pygmaeum
Papaver lapponicum ssp. occidentale = P. radicatum ssp. kluanensis
Papaver macounii = P. lapponicum
Polemonium caeruleum ssp. villosum = Polemonium acutiflorum
Polemonium caeruleum ssp. amygdalinum = P. occidentale
Polygonum engelmannii = P. douglasii ssp. engelmannii
Potentilla anserina ssp. pacifica = P. egedii
Potentilla fruticosa ssp. floribunda = Pentaphylloides floribunda
Potentilla hyparctica = P. nana
Potentilla palustris = Comarum palustre
Potentilla quinquefolia = P. nivea var. pentaphylla
Primula sibirica = P. nutans
Rubus idaeus ssp. melanolasius = R. idaeus ssp. strigosus
Rumex occidentalis = R. aquaticus var. fenestratus
Rumex salicifolius ssp. triangulivalvis = R. salicifolius var. mexicanus
Sanguisorba occidentalis = S. annua
Spiraea densiflora var. densiflora = S. splendens ssp. splendens
Trientalis arctica = T. europaea ssp. arctica
Trientalis latifolia = T. borealis ssp. latifolia

GLOSSARY[38]

Acerose — With a needle-like tip, "needle-pointed".

Achene — A dry, single-seeded fruit that does not open at maturity.

Acicular — Shaped like the needle of a pine tree, "needle-like".

Acorn — A one-seeded fruit of oak trees.

Acuminate — Tapering to a narrow tip or concave point, the sides generally concavely narrowing.

Acute — Tapering to a point, the sides straight (i.e., not convex), "sharp-pointed".

Adaxial — On the side of a structure, turned toward the main axis.

Adnate — Fusion or attachment of unlike parts (e.g., the calyx and corolla).

Adventitious — Development of structures in unusual locations; in the case of roots, generally refers to the development of roots from the stem or leaf.

Alternate — Any arrangement of leaves or other parts not opposite or whorled; arranged singly at different heights on the stem.

Ament — A pendulous spikelike inflorescence with apetalous, unisexual flowers; a catkin.

Amphiberingian — Occurring on both sides of the Bering Strait; a phytogeographic element resulting from past migration across the Bering Land Bridge.

Amplexicaul — Clasping the stem.

Androecium — A collective term referring to male floral parts, that is, the stamens.

Androgynous — A spike bearing staminate (male) and pistillate (female) flowers where the staminate flowers are positioned above the pistillate flowers, closer to the apex of the inflorescence.

Annual — Living for only one growing season.

Anthesis — The period of time when a flower is fully open, "flowering time".

Apetalous — Without petals.

Apex — Tip, point or end.

Aphyllopodic — Having lower leaves that are bladeless or reduced to scales (e.g., *Carex* spp.).

Apical — Located at the apex.

Apiculate — "Abruptly sharp-pointed".

Apomictic — Capable of reproducing asexually.

Apomixis — Any of several types of asexual reproduction.

Aquatic — Living in water.

Arachnoid — Covered with long, delicate, tangled hairs; resembling a cobweb.

Aristate — Having an awn or a bristle at the tip, "awl-tipped".

Armed — Possessing prickles, spines, or thorns.

Articulate — Jointed; separating at a joint, by a clean cut scar, upon maturity.

Anther — The pollen producing sac of the stamen.

Attenuate — Gradually tapering to a slender base or apex.

Auct. non — Indicates that a species name is used commonly in the literature but is incorrect and is not the name used to refer to the type specimen.

Auricle — An ear-shaped lobe or appendage.

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[38] Words or phrases used in lieu of technical terms in this manual appear in quotes in the glossary.

Auriculate — With auricles; often used to describe the base of a leaf blade where there is an auricle on either side of the petiole; with "earlike lobes".

Awn — A slender bristlelike appendage, usually at the apex of a structure.

Axil — The angle between a structure and the axis to which it is attached (e.g., the angle between a leaf and the stem).

Axile placentation — A pattern of placentation where the ovules are attached to the partitions of a compound pistil near the center of the ovary.

Axillary — Used in reference to structures attached in the axil or juncture of stem and leaf stalks.

Banner — The largest, upper petal of a papilionaceous flower.

Barb — A short, firm, reflexed process.

Barbellate — Minutely or "finely-barbed"; bearing stiff hairs with barbs.

Basal — At, or forming, the base.

Beak — A long, slender projection on a broader structure such as a fruit or seed.

Bi — A prefix meaning two or twice.

Biennial — Living for two seasons.

Bifurcate — "Two-forked".

Bilabiate — "Two-lipped"; often with reference to an irregular flower.

Bipinnate — *See* bipinnatifid.

Bipinnatifid — Twice divided.

Biserrate — Doubly serrated.

Bisexual — Bearing both male and female reproductive structures.

Biternate — Two groups of three.

Bloom — *See* glaucous.

Bract — A modified leaf, reduced in size or form, that is associated with a flower or an inflorescence; in conifers, a main appendage arising from the axis of a cone.

Bractlet — A small or secondary bract (*syn.* bracteole).

Bristle — A stiff, hairlike structure.

Bristly — With bristles.

Bulb — A small, stout underground stem bearing modified (scalelike) leaves and fibrous basal roots; generally food storage organs.

Bulbiferous — Producing bulbs.

Bulbil — A small bulb produced above the ground, often on the flowering stem.

Caducous — Falling off the plant early relative to other similar structures.

Caespitose — Growing in dense, low-lying clumps, "tufted".

Calcareous — Rich in calcium carbonate.

Callose — Bearing callosities.

Callosity — *See* callus.

Callus — A hard or firm thickening of a structure; in grasses, the thick, hardened basal portion of the lemma.

Calyx — A collective name referring to the sepals, the outer whorl of the perianth.

Campanulate — "Bell-shaped" to saucer-shaped.

Cane — In *Rubus* spp., woody shoots that arise each year.

Canescent — Appearing white or grey due to very short, fine hairs.

Capillary — Very slender and "hairlike".

Capitate — In a "headlike" cluster.

Capsule — A dry, dehiscent fruit comprised of more than one carpel; method of splitting further classifies the capsule type (e.g., circumscissile, septicidal, etc.).

Carinate — "Keeled".

Carpel — The basic unit of a pistil, a modified seed bearing leaf.

Caruncle — An often fleshy appendage at or near the attachment point (hilum) of some seeds.

Caryopsis — The dry, one-seeded fruit found in grasses.

Catkin — See ament.

Caudate — Bearing a terminal, long and slender appendage like a tail.

Caudex — The woody, thickened and persistent basal portion of a herbaceous perennial that gives rise to leaves and flowering stems each year, i.e., "stem-base".

Caulescent — Having an obvious leafy stem.

Cauline — Of, or pertaining to, the stem, i.e. "stem leaves".

Cellular — A term used in reference to the cell-shaped network of minutely raised and lignified ridges on epidermis (e.g., on the culm of some *Carex* spp.).

Chaffy — With thin dry scales or bracts; "scaly".

Chartaceous — Having the texture of stiff paper or parchment; "firm-papery", thickly membranous.

Ciliate — Leaves fringed on the margins,with fine hairs (cilia), "fringed".

Ciliolate — Ciliate but with smaller hairs.

Cinereous — Appearing grey because of short hairs.

Circumboreal — Distributed at the top or the bottom of the world in the boreal zone.

Circumpolar — Distributed around the North or the South Pole.

Circumscissile — A capsule that dehisces transversely in a circular line, like the opening of a lid.

Clavate — "Club-shaped", the wider portion at the apex.

Claw — The narrowed, basal portion of some petals or sepals.

Cleft — Usually applied to leaf margins and sinuses cut sharply and about half-way to the midrib or base; deeply lobed.

Collar — In grasses, the band on the outside area of the leaf at the point where the leaf blade and the sheath converge.

Coma — A tuft of hair usually at the apex of structures like seeds.

Compound — With two or more parts or components.

Confluent — Structures merging into one; fusing at the bases.

Conic — Cone-shaped; "conelike".

Connate — Union or attachment of like parts (e.g., petals), "fused".

Connivent — Convergent but not fused.

Convolute — The arrangement of petals or sepals such that each petal or sepal has one edge exposed while the other is covered; in grasses, a leaf that is rolled longitudinally so that one edge is inside the other.

Cordate — Shaped like a heart, with the notch at the base; "heart-shaped".

Coriaceous — Having a thick and leathery texture.

Corm — A thickened, underground stem with papery leaves; a storage organ.

Corniculate — Bearing small horns.

Corolla — The collective term describing the petals of a flower.

Corymb — A flat-topped, indeterminate inflorescence where pedicels of florets are progressively shorter towards the center of the inflorescence; may be simple or compound.

Corymbose — A flat or convex-topped inflorescence; resembling a corymb.

Costa — A prominent rib or vein.

Cotyledon — The first functional leaf of a seedling.

Crenate — Toothed with rounded, broad teeth, "round-toothed".

Crenulate — Crenate but with smaller teeth.

Crown — The persistent basal portion of a perennial plant (e.g., grass), or the leafy portion of a tree; any appendage situated between the corolla and the stamens.

Cruciform — Having the shape of a cross, "cross-shaped".

Cucullate — Hooded or "hood-shaped."

Culm — The flowering stem of grasses, sedges and rushes.

Cuneate — Triangular or "wedge-shaped" with the acute angle at attachment point.

Cupulate — Cup-shaped; "cuplike".

Cuspidate — Bearing a short, rigid and sharp point, usually in reference to the apex of a leaf, "awl-tipped".

Cyme — An inflorescence in which all floral axes terminate in a single flower with the terminal flower, at the apexof the inflorescence, blooming first.

Cymose — Bearing cymes, or cyme-like.

Deciduous — Seasonal shedding of leaves or other structures after the growth period.

Decumbent — Lying on the ground with the end curved upward.

Decurrent — A structure adnate or confluent to the stem near its insertion point, with an adnate wing or margin extending down the stem or axis below the point of insertion.

Definite — Distinct; precise.

Deflexed — Bent downward or backward.

Dehiscent — Discharge of contents by the opening of pores or slits, most often pertaining to the opening of fruit at maturity.

Deltoid — Shaped like an equilateral triangle.

Dentate — With sharp, spreading teeth, "sharp-toothed."

Determinate — An inflorescence with the terminal or central flower developing first.

Dichotomous — Forked with both branches of approximately equal size.

Didymous — Occurring or developing in pairs.

Dimorphic — Having two forms.

Dioecious — Male and female reproductive structures borne on different plants.

Disarticulate — The separation of structures at maturity.

Disciform — With the form of a disk; in the Asteraceae, with the central flowers of a head perfect (or functionally staminate) and the marginal flowers pistillate but without a ligule.

Discoid — Resembling a disk; in the Asteraceae, with the flowers of a head all tubular and perfect (or functionally staminate).

Disk corolla (disk flower) — Tubular corolla or flower of some members of the Asteraceae.

Dissected — Divided into many small, fine and often repeated parts or segments.

Divaricate — "Widely spreading".

Dorsal — Pertaining to, or located on, the back of an organ.

Drupe — A fleshy, one-seeded or one-stoned fruit of some plants of the rose family (e.g., cherries, peaches).

Dystrophic — A water body turning brown with suspended organic material and having a high carbon to nitrogen ratio of 10:1 or greater.

Elliptic — Shaped like an ellipse, the broadest point midway between the ends, and the width about one half the length.

Emarginate — Having a shallow notch at the apex, usually with reference to a leaf or petal.

Endocarp — The innermost layer of the three layers comprising the mature ovary wall of a fruit.

Entire — A continuous margin, without teeth or divisions.

Epigaeous — Growing above ground.

Epiphytic — A plant that grows on another plant but does not receive nourishment from it.

Equitant — With alternate leaves whose basal portions overlap and are flattened lengthwise (e.g., *Iris*).

Erose — An irregular margin, appearing eroded or gnawed, not fringed or toothed.

Ex — With respect to plant authorities, indicates that the first author proposed the name for a plant and the second author published that name.

Exfoliate — To peel off in shreds, thin layers or plates, as bark from a tree trunk.

Exserted — Projecting beyond a surrounding structure, like stamens projecting beyond a corolla.

Extravaginal — Located outside the sheath that surrounds another organ.

Falcate — Sickle-shaped; curved sideways and tapering.

Farinose — Covered with a white mealy substance.

Fascicle — A cluster.

Ferruginous — Rust in colour.

Filament — The slender stalk of the stamen that supports the anther.

Filiform — "Threadlike", slender and cylindrical.

Fimbriate — Fringed with hairs coarser than cilia.

Fistulose — Hollow.

Flabellate — "Fan-shaped".

Flabelliform — *See* flabellate.

Flexuous — Bent in opposite directions; having a more-or-less zig-zag or wavy form.

Floccose — Covered with tufts of soft woolly hairs that usually rub off readily.

Floret — A small flower, particularly one in a floral cluster; pertains also to the flower of a grass spikelet which includes the lemma, palea and reproductive structures.

Foliaceous — "Leaflike".

Follicle — A dry, dehiscent fruit composed of one carpel that splits at the side upon maturing to release its seeds.

Fornix (*pl.* fornices) — A small, scale-like or petaloid appendage in the tube or throat of the corolla.

Free central placentation — A pattern of placentation where the ovules are borne on a single stalk, which is anchored at the base of a one-celled ovary.

Frond — The leaf of a fern.

Fruit — The ripened ovary and any other structures that enclose it.

Funnelform — "Funnel-shaped," usually pertaining to the corolla.

Fusiform — "Spindle-shaped," broadest at the middle and tapering to opposite ends.

Galea — The hooded portion of the perianth in some irregular or bilabiate flowers.

Gametophyte — The sexual reproductive stage of a plant that produces gametes; in ferns it is often the small inconspicuous form of the plant.

Gamopetalous — Flowers which are fused to any degree.

Geminate — "in pairs".

Gemma (*pl.* gemmae) — A young bud which, when detached, forms a new plant vegetatively.

Geniculate — Abruptly bent.

Gibbous — Swollen on one side.

Glabrate — "Nearly smooth," or becoming smooth, usually with age.

Glabrescent — *See* glabrate.

Gland — A spot or structure that produces a sticky or greasy substance.

Glandular — Having glands.

Glandular-pubescent — With gland-tipped hairs, "glandular-tipped".

Glaucous — Covered with a whitish or bluish waxy powder that readily rubs off; with a bloom.

Globose — Spherical.

Glochidia — Retrorsely barbed hairs.

Glomerate — Aggregated or condensed into heads.

Glomerule — A dense cluster, usually of flowers.

Glumes — The two small bracts located at the base of a grass spikelet; they do not subtend flowers.

Glutinous — Covered with a sticky, glue-like resin.

Gynaecandrous — A spike bearing staminate (male) and pistillate (female) flowers where the staminate flowers are positioned below the pistillate flowers, thus the pistillate flowers are closest to the spike apex.

Hastate — Shaped like the head of an arrow with the basal lobes flaring outward, "arrowhead-shaped".

Head — A dense indeterminate inflorescence of sessile (or nearly sessile) flowers, situated on an axis that is much compressed vertically and sometimes flattened or saucer-shaped.

Hemispheric — In reference to a head, with a half-sphere shape.

Herb — Plant with stem that dies back to the ground after flowering or at the end of the growing season.

Herbaceous — A non-woody plant.

Heterophyllus — Having two types of leaves.

Heterosporous — Production of two different types of spores, generally differing in size.

Hirsute — Covered with long, stiff and coarse hairs, "stiff-hairy".

Hirtellous — Minutely hirsute.

Hispid — Bearing long, rigid and very sharp bristles or "bristlelike" hairs.

Hispidulous — Slightly hispid.

Hoary — Covered with short and fine white or grey hairs.

Homophyllous — With leaves that are all identical or very similar in form.

Homosporous — Production of one type of spore.

Hyaline — Thin, almost completely transparent tissue, translucent, "wax papery".

Hybrid — A cross between two taxa, usually a cross between two species of the same genus.

Hypanthium — A cup-like structure surrounding the ovary, formed by the fusion of the basal portions of the perianth, calyx, corolla and androecium.

Imbricate — Partly overlapping in a spiral manner, shingle-like, "graduated".

Imperfect — Flowers lacking either female or male reproductive structures, a unisexual flower.

Indeterminate — An inflorescence with the terminal or central flower developing last.

Incised — Cut sharply, deeply and irregularly, as in leaf margins.

Indument — Appendages or outgrowths from the epidermis of a plant, a collective term, of hairs or scales.

Indurate — Hard or stiff.

Indusium (*pl.* indusia) — A scale-like outgrowth that covers and protects the cluster of sporangia located on the underside of a fern frond.

Inferior (ovary) — When the perianth and androecium are fused at the top of the ovary wall, the ovary position is described as inferior.

Inflorescence — The flowering cluster, categorized by the arrangement of flowers on the floral axis.

Intergradients — Taxa that interbreed and consequently share many characteristics making it difficult to separate them taxonomically.

Internode — The section of a stem or another structure between two nodes.

Interrupted — Discontinuous, with gaps.

Involucre — A rosette of bracts subtending an inflorescence or head.

Involute — Margins longitudinally rolled in, on the upper side, toward the center.

Irregular — Pertaining to a flower in which similar parts (e.g., petals) are unequal in shape and size (*syn.* zygomorphic).

Keel — In a papilionaceous flower, the two lowermost connate petals; resembles the keel of a boat; in grasses, the sharp crease or ridge of the leaf blades, the lemma or the glume.

Lacerate — With an irregular or jagged margin, as if torn.

Laciniate — Cut into narrow, often pointed, lobes.

Lamina — The flattened portion (i.e., the blade) of a leaf or petal.

Lanate — Woolly, with long intertwined, curly hairs.

Lanceolate — Longer than broad, widening above the base and tapering to the apex.

Leaflet — One of the segments or divisions of a compound leaf.

Lemma — The two outermost bracts that subtend the grass floret (see palea).

Lenticular — Biconvex in shape.

Ligulate — With a ligule.

Ligule — Flattened part of the ray corolla in the Asteraceae; in many grasses and some sedges and rushes, a membranous (or hair-like) appendage on the inner side of the leaf at the junction of the leaf blade and the sheath.

Linear — Long and narrow, with parallel margins.

Locule — A compartment in the ovule or anther.

Lustrous — Shiny.

Lyrate — Pinnatifid with the end lobe enlarged and rounded.

Maculate — "Spotted".

Malpighiaceous — Hairs attached to a surface by their centers.

Maritime — Near to, or influenced by, the sea.

Megasporangia — The sporangia of a heterosporous plant that produces megaspores.

Megaspore — On a heterosporous plant, the larger of two spore sizes produced; a spore involved in development of female reproductive organs.

Mericarp — One portion of the fruit (e.g., a schizocarp) that splits into two halves at maturity, found in members of the Apiaceae and the Haloragaceae.

Merous — A suffix referring to the division of floral parts, e.g., a 3-merous flower would have 3 petals, 3 sepals, 3 stamens, and a pistil with 3 carpels.

Mesic — Relating to habitats with a moderate or average amount of moisture.

Microsporangia — The sporangia of a heterosporous plant that produces microspores.

Microspores — On a heterosporous plant, the smaller of two spore sizes produced; a spore involved in the development of male reproductive organs.

Monoecious — Male and female reproductive structures borne on the same plant.

Mottled — Marked with spots.

Mucro — A small, short and abrupt point.

Mucronate — Having mucro or abrupt, short projection on the mid-vein at the leaf tip.

Muricate — Roughened with short, firm and sharp projections.

Naked — Lacking various organs, hairs or appendages.

Naturalized — A well established plant originating from another area.

Neutral — In reference to a flower lacking functional stamens and pistils.

Nodding — Curving to one side; minutely pendulous.

Node — The location on a stem where stems or leaves usually originate, generally a swollen area, other structures like tendrils and flowers may also originate here.

Nom. superfl. — A plant name that has been superseded by a valid name; a superfluous name.

Nut — A hard, indehiscent fruit, with one seed.

Nutlet — A small nut; also used when referring to each lobe of the 4-lobed nuts found in borages.

Ob — A prefix meaning in the reverse of the typical direction.

Obconical — Conical in shape with attachment point at the narrow end of the cone.

Obcordate — Having an inverted heart shape, "heart-shaped".

Oblanceolate — Reverse of lanceolate, widest above the middle and tapering to the base.

Oblong — Much longer than wide with parallel or nearly parallel sides.

Obovate — The reverse of ovate; attached at the narrow end, "egg-shaped".

Obpyramidal — Having the shape of an inverted pyramid.

Obsolete — Reduced to the point of being entirely, or almost, undetectable.

Obtuse — Blunt, rounded.

Ochroleucous — Yellowish-white to buff or cream-coloured.

Oligotrophic — A water body low in nutrients.

Olivaceous — Olive-like in colour.

Operculate — Provided with an operculum; a little lid, the deciduous cap of a circumscissile fruit, or a fruit that dehisces along the circumference near the apex.

Orbicular — Having a circular outline.

Ovary — The enlarged base of the pistil that encloses the ovules of angiosperms.

Ovate — Shaped like a hen's egg, attached at the broader end, "egg-shaped". Term applied to plane surfaces.

Ovoid — Shaped like a hen's egg, "egg-shaped". Term applied to solid objects.

Ovule — A young or undeveloped seed.

Palea — The innermost of the two bracts that subtend the floret in grasses (see lemma).

Palmate — Lobed or divided in a palm- or hand-like fashion, digitate.

Panicle — A branching inflorescence on which younger flowers are borne at the apex.

Paniculiform — Resembling a panicle.

Papillate — Covered with small minute rounded protuberances (papillae, "pimples").

Papilionaceous flower — A strongly irregular flower with five petals, the lowermost two petals are connate (fused) and form the keel, as in Fabaceae.

Pappus — The modified outer perianth series crowning the ovary and achene in the Asteraceae; usually plumose, bristle-like, or of scales.

Parietal placentation — A pattern of placentation, in compound pistils only, where ovules are attached to the outer wall of the carpel.

Pectinate — "Comb-like", pinnately lobed with narrow segments arranged like the teeth of a comb.

Pedicel — The "stalk" of a single flower in an inflorescence, or of a spikelet in grasses.

Pedicellate — Having a pedicel, a "stalk".

Peduncle — The single supporting stalk of a flower or inflorescence.

Peltate — An umbrella-shaped leaf whose attachment point is on the underside of the leaf rather than at the base or margin, "umbrella-like".

Pendulous — Hanging; resembling a pendulum.

Perennial — Growing for more than two seasons.

Perfect — A flower that has functional stamens and pistils.

Perfoliate — Bearing opposite leaves whose bases are wrapped around the stem and connate, giving the appearance that the stem passes through the leaf.

Perianth — A collective term for the calyx and corolla.

Perigynium — A "pouched" bract surrounding the pistil or achene in *Carex* spp.

Persistent — Remaining attached.

Petiole — Leaf stalk.

Phenotypic plasticity — Ability to adapt, morphologically, to changing environmental conditions.

Phyllode — A somewhat expanded but bladeless petiole taking on the function of a leaf.

Phyllopodic — Having well developed lower leaves instead of scales.

Piliform — Having the shape of a long, sometimes wavy, hair.

Pilose — Shaggy with soft hairs, "soft hairy".

Pinna (*pl.* pinnae) — One of the primary divisions of a pinnately compound leaf or frond.

Pinnate — Compound leaf with the leaflets on both sides of an elongated axis.

Pinnatifid — Pinnately lobed.

Pinnule — A secondary leaflet in a bipinnately compound leaf.

Pistillate — Flowers possessing pistils, but no functional stamens (i.e., a female flower).

Pith — The spongy tissue in the center of a root or stem that surrounds vascular bundles.

Placentation — The pattern of attachment of ovules in the ovary. *See* axile, parietal or free central placentation.

Plumose — "Feather-like".

Pod — Any type of dry, dehiscent fruit.

Pollen — A general term pertaining to the haploid *(n)* microspores produced in the anther.

Polypetalous — Flowers with all petals distinct, not united.

Polyploidy — Two or more sets of chromosomes (e.g., 3n, 4n, 8n).

Prehensile — Grasping.

Prickle — Small, sharp outgrowth from epidermis, contains no vascular tissue.

Prismatic — Prism-shaped.

Procumbent — Prostrate or trailing stem, does not usually root at nodes.

Propagule — Any part of a plant capable of growing into a new organism; e.g., seed, spore, gemma, cutting.

Pro parte — In part.

Pro parte sed non typus — Resembles, in part, but not completely the type specimen; possessing some but not all characteristics of the type specimen.

Prostrate — Lying flat on the ground, may root at the nodes.

Pruinose — *See* glaucous.

Puberulent — Bearing very short, loose or erect hairs, scarcely visible to the unaided eye, minutely pubescent, "short-hairy".

Pubescent — "Hairy".

Pulverulent — Dusty, powdery.

Pulvinus — Swollen tissue at the insertion point of the leaf petiole, or sometimes at a joint.

Punctate — Marked with pits or dots formed by glands or waxy spots.

Puncticulate — Minutely punctate.

Pyriform — Pear-shaped.

Raceme — An indeterminate, elongated inflorescence where single flowers are borne on pedicels arranged on a single axis; the youngest flowers are at the apex.

Racemiform — Possessing the form of a raceme.

Rachilla — The axis of a spikelet in grasses, refers to a secondary axis in sedges.

Rachis — The main stalk of an inflorescence or compound leaf, the "axis of inflorescence".

Radiate — In the Asteraceae, "heads with ray and disk flowers".

Ray (flower) — Strap-shaped corolla (ligule), as in the Asteraceae.

Receptacle — The expanded end of the stem on which floral parts are borne.

Reclining — Lying on the ground or one plant pressed on another.

Reflexed — Bent sharply downward or backward.

Regular (flowers) — A flower with radial symmetry; petals and sepals that are similar in shape, size, colour and orientation.

Reniform — "Kidney-shaped".

Resinous — Covered with a resin.

Reticulate — Forming a network, netted like the veins of a leaf, "net-veined".

Retrorse — Directed backward or downward.

Retuse — *See* emarginate.

Revolute — Leaf margins rolled toward the underside of the leaf.

Rhizome — A creeping, underground stem or rootstalk that roots at the nodes.

Rhombic — "Diamond-shaped".

Rib — A prominent vein, usually on a leaf.

Root — The descending axis of a plant that anchors and absorbs moisture from the ground, lacks nodes and internodes.

Rootstock — Used loosely to mean a main root or an underground root-like stem or branch.

Rosette — A dense cluster of flowers or leaves radiating around a central axis, usually basal in the case of leaves.

Rosulate — In the form of a rosette.

Rotate — Flat and circular in outline; "saucer-shaped" or "wheel-shaped".

Rotund — Rounded.

Rudimentary — Usually a small, imperfectly developed structure, generally reminiscent of an earlier evolutionary stage.

Rufous — "Reddish-brown".

Rugose — Possessing a "wrinkled" surface.

Rugulose — Slightly rugose.

Saccate — Shaped like a sac or pouch.

Sagittate — Shaped like the head of an arrow, triangular with the basal lobes pointing backward, "arrowhead-shaped".

Salverform — A corolla having a long slender tube that flares abruptly at the end.

Samara — A winged, indehiscent fruit.

Samaroid — Resembling a samara.

Saprophytic — A plant that derives its nutrients from dead organic matter and lacks the chlorophyll that gives most plants their green colour.

Scaberulous — Slightly scabrous.

Scabrid — *See* scabrous.

Scabridulous — *See* scaberulous.

Scabrous — Having a roughened surface caused by very short stiff hairs or short sharp projections, "rough short-hairy".

Scabrule — A stiff pointed projection or a short stiff hair.

Scale — A small, flat structure resembling the scale of a fish.

Scape — A flowering stem without leaves.

Scapose — Bearing a scape.

Scarious — Having chaffy, membranous, brown or "wax-papery" edges.

Scrambling — Slightly reclining.

Scree — Relatively small broken rock material characteristic of alpine areas, usually a result of freeze-thaw cycles.

Secund — Having all flowers or branches borne on one side of the axis.

Semi-aquatic — A plant that may tolerate partial submersion in water or a plant that roots in the soil but produces aquatic leaves.

Sensu lato — In the broad sense.

Sepals — The outermost whorl of floral leaves, also called the calyx and is usually green in colour.

Septum — A partition; in an ovary, a partition formed of the fused walls of adjacent carpels.

Seriate — In a series of rows.

Sericeous — A surface with long, soft, appressed hairs, giving a silky appearance and texture, "silky-hairy".

Serrate — "Sharp-toothed"; like a saw edge.

Serrulate — A leaf margin with small serrated teeth.

Sessile — Without a stalk, "unstalked".

Seta (*pl.* setae) — A bristle.

Setose — Bearing setae.

Sheath — An thin tubular organ that partially or wholly surrounds another organ; in grasses, the basal portion of the leaf blade that wraps around the stem.

Shrub — A woody perennial plant, less than 10 m tall, with several basal stems.

Silicle — A dry fruit of plants in the Brassicaceae generally not more than two times longer than wide which opens along the edges leaving the seeds attached to a central partition.

Silique — A long slender fruit (such as that of the Brassicaceae family) which splits open along the edges leaving seed attached to a central partition.

Simple — A leaf not compounded into leaflets, or an unbranched inflorescence.

Sinuate — A pronouncedly waved leaf margin, "wavy".

Sinus — "Notch", a cavity or a depression between two adjacent structures (e.g., the space between two lobes of a leaf).

Smooth — Without hairs of any type.

Sordid — "Dirty tinged".

Sorus (*pl.* sori) — A cluster of spore producing structures (sporangia) on the underside of a fern frond.

Spadix — A spike with small, densely crowded, unisexual flowers on a thick and fleshy axis, the inflorescence is subtended by a spathe.

Spathe — A large bract surrounding a spadix.

Spatulate — Broad and rounded at the apex; narrowing to the base, "spoon-shaped".

Spiciform — An inflorescence resembling a spike, "spike-like".

Spike — An unbranched inflorescence; flowers are sessile.

Spikelet — A small spike; in grasses, the primary inflorescence composed of two glumes and one or more florets.

Sporangia — Spore producing structures.

Sporangium — Reproductive structure of ferns that produces spores.

Spore — A haploid *(n)* reproductive cell.

Sporocarp — The structure that contains the sporangia in ferns.

Sporophore — A leaf bearing reproductive structures; generally used in reference to the spore bearing leaves of ferns.

Sporophyll — A modified leaf bearing sporangia.

Sporophyte — The generation in the reproductive cycle of plants that produces spores; in ferns generally refers to the conspicuous form of the plant (see gametophyte).

Spur — A slender and hollow floral appendage, generally nectariferous.

Squamiform — "Scalelike".

Squarrose — Having parts, generally at the tip of a structure, that are abruptly curving and spreading.

Stamen — The male sex organ of a plant constructed of an anther and a filament, the anther produces pollen.

Staminate — Flowers bearing stamens but no functional pistils; a male flower.

Staminode (*pl.* staminodia) — A sterile, sometimes modified stamen (*syn.* staminodium).

Stellae — Star-shaped structures.

Stellate — "Star-shaped"; having many rays radiating out from a common center.

Steppe — An extensive area of dry, semi-arid grassland.

Sterile — Infertile flowers.

Stigma — The generally expanded, apical portion of the pistil which is receptive to pollen.

Stipe — A stalk supporting the pistil; also the petiole of the frond of a fern.

Stipitate — Borne on a stipe or short stalk.

Stipule — An appendage on each side of the base of a leaf or petiole at its insertion point on the stem.

Stolon — An elongate, creeping, above-ground horizontal stem that roots at the nodes or at the tips.

Stramineous — Having the colour of straw, "straw-coloured".

Strigillose — Like strigose but with shorter hairs, "short appressed-hairy".

Strigose — A surface having sharp, appressed and straight hairs that are stiff and often basally swollen, "appressed-hairy".

Style — A generally elongated stalk connecting the ovary and the stigma through which the pollen tube grows.

Styliform — Resembling a long slender stalk, like a style.

Stylopodium — A disk-like enlargement at the base of the style.

Sub — A prefix signifying below, somewhat, slightly or rather.

Subspecies (ssp.) — A category of biological classification ranking immediately below the species level; also see page 5.

Subtend — To be positioned directly or closely beneath something.

Subulate — Narrowly triangular and tapering to a small point like an awl, "awl-like".

Succulent — Fleshy, having a soft and thickened texture.

Sulcate — Longitudinally grooved or furrowed.

Superior ovary — An ovary which is attached to the summit or center of the receptacle and is free from all other flower parts.

Sympatric — Occurring in the same area.

Sympodial — Having an apparent main or central axis that is actually comprised of several short overlapping branches.

Synonym — An equivalent superseded name, a second name to a given taxon.

Talus — An accumulation of rock material on or at the base of a slope, larger material than scree.

Taproot — An underground tapering, main root from which smaller lateral roots may form (may be thick or thin).

Tendril — A long, slender, generally twisting structure from which a climbing plant acquires its support.

Tepals — A collective term applied to petals and sepals when they are morphologically identical.

Terete — A structure that is circular in cross section but imperfectly cylindrical since the object may taper one or both ways.

Ternate — Arranged in groups of three.

Tetrad — In groups of four.

Thyrse — An elongated and densely flowered panicle, often contracted and pyramidal in shape.

Thyrsoid — Resembling a thyrse.

Tomentose — Densely pubescent with soft, matted wool-like hairs, "woolly-hairy", "woolly".

Tomentulose — Slightly tomentose or "slightly woolly".

Toothed — Bearing teeth-like protrusions.

Torose — Having successive swellings and contractions, "constricted between the seeds".

Torulose — Slightly torose.

Tri — A prefix meaning three or three times.

Tricuspidate — *See* cuspidate.

Trifid — Separation into three parts.

Trifoliate — A compound leaf with three leaflets.

Trigonous — Having three angles.

Tripinnate — Branched three times.

Triquetrous — With three sharp angles, like a triangle with concave sides.

Trophophore — A vegetative leaf or frond, one that does not have reproductive structures attached.

Truncate — Cut-off at the end; having a squared shape at the apex or base.

Tuber — A thickened, modified underground stem having many buds (e.g., a potato).

Tubercle — A small, rounded swelling.

Tuberculate — Bearing tubercles.

Tuberous — Thickened; producing tubers.

Turbinate — Inversely conical, "top-shaped".

Turgid — "Swollen".

Turion — A small, scaly bud-like offset on an underground stem.

Type specimen — A specimen identified by the author of a species that, morphologically, represents the best example of this species (*syn.* holotype).

Umbel — An inflorescence in which all flowers arise from a common point, younger flowers are in the center, may be simple or compound.

Umbellate — Arranged in umbels, umbel-like, "umbrella-like".

Umbellet — A secondary umbel in a compound umbel.

Undulate — A slightly wavy margin.

Uniseriate — Arranged in a row or series.

Urceolate — "Urn-shaped".

Utricle — A small, thin-walled, one-seeded, more or less inflated fruit.

Valve — One of the segments into which a dehiscent fruit splits at maturity.

Variety *(var.)* — A category of biological classification ranking immediately below the species or subspecies level; see also page 5.

Veins — Thin threads of vascular tissue, as in a leaf.

Velutinous — Having a velvety texture.

Vernal — Pertaining to, or appearing in, spring.

Verrucose — Covered with wart-like protrusions, "wartlike".

Verticillate — *See* whorled.

Verticils — *See* whorl.

Vestige — The reduction of a structure whose functional importance has decreased with evolutionary time.

Villous — With long and soft, unmatted hairs, "long-hairy".

Viscid — Glutinous, greasy, or sticky.

Wanting — Lacking.

Whorl — Three or more structures arranged in a circular manner around a common insertion point.

Whorled — Having whorls.

Wing — A thin membranous outgrowth.

Winged — Bearing wings.

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